FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 29—Number 27 | JULY 6, 1957 | 1 Year $4, 2 Years $7

Kansas Scientist Wins First AFMA Award for 1957

STILLWATER, OKLA.—Dr. Erle Edwin Bartley, a Kansas State College dairy scientist, has received a $1,000 award from the American Feed Manufacturers Assn. for outstanding nutrition research.

His award, the first of three to be made in 1957 by the AFMA, was presented to him at the recent 51st annual meeting of the American Dairy Science Assn. on the Oklahoma State University campus.

Two more $1,000 AFMA awards will be made later this year to outstanding scientists to be selected by the Poultry Science Assn. and by the American Society of Animal Production.

Dr. Bartley was selected for this honor on the basis of his prolific research in dairy cattle nutrition. Since 1954, his publications in scientific journals have covered 11 investigations, the majority dealing with antibiotic activity and action in ruminant nutrition. Other research dealt with additional phases of dairy calf nutrition, factors affecting the composition of milk fat, feed, factors affecting milk flavor and the value of dehydrated alfalfa in the diet of milk cows.

Dr. Bartley, 35, was born of British parents in Bangalore, India. Educated in private schools in India, he was granted his bachelor of science degree with honors by Allahabad Agricultural Institute in 1944. He received his master's degree in 1946 from Iowa State College and his doctorate from the same institution three years later. The same year, he joined the Kansas State College staff and in 1952 became a naturalized citizen of the U.S.

Active Sales Reported By Commodity Offices

Sales reported by CCC offices through the country continued active last week.

Sales made by the Dallas Commodity Stabilization Service last week included 692,547 bu. oats, 425,563 bu. soybeans, 140,000 bu. barley, 125,468 bu. grain sorghum and 47,694 bu. corn, the office reports.

The office has also announced an offering of 1 million bushels of No. 2 yellow milo for export with bidding open to July 9. The office previously rejected all bids twice for an equal amount of milo. Another sale during the past week included 1,832,332 bu. wheat for export.

The Chicago office, meanwhile, reported continuing strong sales of soybeans. A total of some 2.5 million

(Continued on page 85)

Hearing Scheduled

WASHINGTON—A hearing will be held July 24 in Memphis to determine whether or not to establish a soybean cyst nematode quarantine in Kentucky and Arkansas. The U.S. Department of Agriculture already has announced plans to quarantine infested areas in Missouri, North Carolina and Tennessee.

FEEDSTUFFS *Features This Week*

HOG PRODUCTION: Marked changes in hog production methods are expected to develop rapidly in coming years. A report on the development from the American Meat Institute Foundation may be found on **page 36.**

CATTLE FEEDING: W. D. Farr, a Greeley, Colo., cattle feeder discusses development of cattle feeding in the west and the expectation of more large cattle feedlots in the Midwest in an article on **page 26.**

NUTRITION: An article by Dr. Gus Bohstedt of the University of Wisconsin on ruminant mineral nutrition is on **page 10.** European experts discuss feed additives and human health on **page 18.** The mechanical value of added animal fat in pelleting a poultry ration is covered on **page 20.** Nutrition in building sales is the subject of Myron M. Carpenter, Peavey Feed Mills on **page 60.**

OTHER: A growing role for microscopy in feed quality control work is described on **page 14.** Swine disease problems with confinement rearing are discussed on **page 45.**

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Improvements Shown in Broiler-Feed, Egg-Feed and Hog-Corn Price Ratios

WASHINGTON—The broiler-feed ratio in the month ending June 15 improved from the May 15 and June 15, 1956, figures, reflecting the improved broiler market price situation.

The U.S. Department of Agriculture stated that on June 15 a pound of live broiler would buy 4.3 lb. of feed compared with 4 lb. on both May 15 and June 15, 1956.

Improvements in egg-feed, hog-corn and butterfat-feed ratios also were noted. Declines occurred in the turkey-feed and milk-feed ratios. (Table on page 86.)

USDA said that on June 15 a dozen eggs would buy 8.3 lb. of poultry feed compared with 8.2 lb. on May 15 and 10 lb. on June 15, 1957. On June 15 a pound of butterfat would buy 22.9 lb. of concentrate rations compared with 22.4 lb. a month previously and 21.6 lb. a year earlier.

On June 15 USDA figures showed that 15.1 bu. of corn were equal in value to 100 lb. of hog live weight compared with 14 lb. on May 15 and 11.1 lb. on June 15, 1956.

One pound of turkey live weight on June 15 was equal in value to 6.7 lb. of turkey feed as against 7.1 lb. a

(Continued on page 85)

Hurricane Stricken Cattle to Receive Government Grain

WASHINGTON—The U.S. Department of Agriculture this week made available 35,000 bu. of corn stored in Port Arthur, Texas, to alleviate suffering of livestock in the hurricane disaster areas of Cameron and Calcasieu parishes in Louisiana.

The grain has been made available to Maj. Gen. Raymond Hufft, state director of civil defense for Louisiana, to feed an estimated 3,000 head of cattle stranded in the wake of hurricane Audrey. Members of the USDA state disaster committee are

(Continued on page 81)

FEED COSTS BIGGEST FARM EXPENSE

ST. PAUL—Minnesota farmers are spending more cash for feed than for any other production item, according to a 1956 survey by the University of Minnesota and the State-Federal Livestock Reporting Service.

Expenditures for production items averaged $6,052 in 1955 and feed costs made up $1,112 of this, or 18%, report R. W. Cox, U. of M. agricultural economist, and R. A. Bodin and R. J. Schrimper, officials with the reporting service. They base their figures on a sampling of farmers interviewed over the state.

Second biggest cost item was for buying motor vehicles, machinery and other equipment—$845. Third largest was purchase of livestock and poultry, averaging $609 per farm.

Crop Acreage Shift Likely In July Report

Large Increases In Feed Grain Outturn Expected

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — Barley and sorghum crop prospects on the July crop report next week may show up a new, shifting pattern of feed grain acreage.

According to reports, the U.S. Department of Agriculture expects the pattern to be evident, for example, in California barley and corn acreage which may play a part in corn prices later this year.

USDA is being hit on all sides with reports of crop outturns and tonnage prospects which thus far the USDA has apparently declined to take into serious consideration, preferring to ignore the usual crop scares and optimistic reports until the returns are in for the cotton crop on Aug. 8.

USDA officials agree that on the basis of acreage planted for the feed grains—and this is also an intangible figure as of this week—that a huge sorghum acreage, the clearly indicated expansion of barley and corn in California and increases in other places can offset the possible reduction in the corn crop outturn elsewhere this year.

Estimates now on the corn crop range from a low of 2.8 billion bushels to a high of 3.3. At that level, USDA would step in to impose a low loan support level for non-compliers with corn crop acreage allotments.

But a corn crop as low as 2.8 billion bushels could also bring about a low loan level if the barley, milo and soybean outturns break through to new high tonnage levels.

The items to watch in the July 10 crop report are barley—particularly

(Continued on page 85)

National Turkey Federation Sets Plans For Merchandising Record 1957 Crop

SAN DIEGO, CAL. — Plans for merchandising the record 1957 turkey crop were the major item of business at the annual summer business meeting of the National Turkey Federation here.

The meeting, held following the conclusion of the Western Poultry Congress, placed great emphasis on the immediate problem of midsummer turkey time, July 25-Aug. 4.

Although turkey consumption is at record levels, more than a third greater than at this time last year, all out efforts are being expended to move a large storage carryover and a larger-than-usual early crop of turkeys before the big fall marketing season.

Discussion also covered policy concerning government turkey purchases for the school lunch program. Action was taken which will have the federation request that government turkey purchases be made on the same basis as the many other food products purchased for the school lunch program. The request includes that an announcement of intentions to purchase turkeys be made as soon as possible to give greater stability to the market.

Also discussed was progress of proposed legislation which would provide a federal enabling act with features providing for fund raising for turkey promotion, research and other purposes. Copies of suggested legislation are expected to be ready for consideration by the federation and state association leaders in the near future.

★ FEEDSTUFFS ★

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The Consumer's Vote

THE feed business has its ups and downs, as anyone affiliated with it knows. Swings from periods of relatively high volume of production, accompanied by either satisfactory or unsatisfactory profits, to temporary periods of lighter production affect the entire industry at times and more frequently affect individual manufacturers. The fact that after a downswing business can usually be counted on to get back its old bounce is a comfortable thing to keep in mind when the sales manager is putting on the heat. A great deal of work and worry go into the job of selling, but for the concern with the right products and an understanding of the market, it pays off.

In the bustle of trying to meet a quota or top the volume racked up in the previous year there isn't too much time for sitting back and thinking about the broader aspects of the market for feed. It is well to do so now and then, not only because it is reassuring to remind oneself that he has chosen the right line of business, but also because of the help such a review can give one in planning one's personal or company role in the growth of the industry.

A review and appraisal of the feed industry's future that might well be regarded as one of the best of the season was presented at the recent meeting of the American Association of Cereal Chemists in San Francisco.

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THE discussion was included in an address by Karl Brandt, associate director of the Food Research Institute at Stanford University, entitled, "Dynamic Shifts in the American Cereal Economy."

"In the free market economy," Dr. Brandt said, "it is the consumer who allocates the nation's resources by voting with dollars and cents through his purchases. Thus he exercises his prerogative of satisfying his wants according to his preference. This he has done with remarkable tenacity and effectiveness with reference to the cereal economy, by changing his diet as economic development created the need for it and gave him at the same time the rising purchasing power to exercise his changing preference.' '

What the consumer has voted for, Dr. Brandt points out, is a diet consisting of fewer starch calories and greater consumption of fats, meat, milk and eggs. This, of course, is not news, but the details of this shift in taste are worth review. From 1935-39 to 1956, the per capita consumption of red meat has increased from 127 to 167 lb.; the consumption of chicken meat from 13 to 24 lb., and turkey consumption from 2 to 6 lb., or by 200%.

"This consumption shift," Dr. Brandt continued, "was possible only because of the change in the utilization of the total available supply of grain. The main shift is one toward more and more conversion of grain through livestock into food consisting of animal products. But since, in this conversion, anywhere from 70 to 90% of the calories in the feed are lost in the process, this shift in use from direct consumption to consumption of animal products expands the capacity of the market for cereals with a heavy multiplier.

"The greatest and most consequential shift in the entire cereal economy of this country is the transfer of more and more grain to the feed trough. For agriculture in general the trend is toward more and more use of acreage through livestock." Some figures used to illustrate the shift, while not strictly up to date, certainly point the direction in which the food consumption pattern is moving. At the turn of the century, 54% of the U.S. grain crop was fed to food-producing livestock. In 1950-52, 73% of the crop was fed to this class of animals. A significant part of the shift in grain consumption was involved, too, in the decline in horse and mule numbers. The work animals consumed 21% of the grain crop back around 1900, and in more recent years there remained only enough of them to consume 5% of the crop.

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DR. BRANDT cited the poultry meat industry as the most progressive element in the entire grain economy and reviewed the key features of "this biological business of converting cereals into the finest animal proteins." And, in this connection, he emphasized that the feed mills are at the heart of the whole broiler industry, moving vast amounts of mixed cereal feeds to the broiler-producer plants. This comment, in turn, brings us to the heart of this discussion.

"Chemistry has a vast area for further experimentation with and improvement in the conversion efficiency in the hog and cattle industries," he pointed out. "The broiler industry has shown the way."

It is in this area, of course, that not only the feed manufacturers themselves, but also the chemical and other allied industries will contribute to the further expansion of livestock production in order to satisfy the consumer's "dollar vote." In so doing all segments of the industry, in proportion to their contributions, will benefit from the election returns.

The cereal economy, Dr. Brandt concludes, will become increasingly identical with the livestock-feed industry. It is a statement that many will be agreeable to agree with.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

Feed manufacturers generally observed a four-day week, being closed for the July 4 holiday. The output for the curtailed week was enough to supply the demand. Broiler prices held steady and this presented a heartening situation for feed men and broiler producers alike. Turkey feed volume was good in many sections as birds were maturing. Hog feed sales were steady in most areas as prices for hogs were somewhat improved. Feed prices were up slightly. The index number of wholesale feedstuff prices was 76.2 or .2 point above the previous week, but 5.7 points below a year ago. The feed grain index at 74.5 was .8 point above the week before, but 10 points below a year earlier. (Ingredient details on pages 82 and 84.)

Northwest

Feed plants observed a four-day week and were able to supply the demand in that period. The bright spots were good movements in turkey and hog feeds and poultry concentrates.

Egg prices remained at low levels which many producers called unprofitable and this situation is a disheartening one for feed men. Concern was also expressed over the low turkey prices and a redeeming situation for producers would be a strong consumer demand for turkeys this fall. Fairly steady hog prices offer encouragement for continued steady sales of hog feeds.

Next week is expected to be slower production-wise for one plant and slightly improved for a few others, compared with a year ago.

Considerable rainfall fell in most of the area during the past week and small grain crops continued to do well, except in low-lying fields which suffered from excessive moisture.

Feed prices were unchanged to $1 higher as meat proteins, millfeeds and corn went up in price.

Southwest

The formula feed business in the Southwest was about unchanged from recently—not rushing, but active enough to keep mixers from complaining loudly.

The July 4 holiday reduced production time for most mills to four days this week, although an occasional mill was to run July 6 to keep from building up too large a backlog, and a few mills were shut down July 5 without putting themselves too far behind. The average running time will be four days, two shifts. Order backlogs going into next week were expected to be pretty good.

The turkey feed volume was increasing with the size of the turkeys, and hog feed continued to move well, spurred on by the good hog prices. Broiler prices have been strong, helping along the broiler feed business. Some mixers reported an improvement in chick feed sales. Dairy feed about held its own and there are some reports that there was a slight pickup in cattle feed interest as the grass dried out to permit profitable feeding of a supplement on the grass.

Business this week may have suffered from the holiday, it was felt, with many dealers having stocked up last week. The harvest operations were also said to be keeping farmers from buying the normal amount of feed. There was a feeling among mixers that income from the harvest will stimulate feed business when the harvest is complete.

Prices were steady to up 60¢. Animal protein and millfeed were responsible for some of the advance.

Northeast

A pre-holiday spurt improved formula feed sales and bolstered manufacturers' running time. One manufacturer reported a fairly good run of trucks and cars during the late upturn. However, not much business was done later this week.

There was little change in the sales pattern, with egg mashes continuing to lead the way. Growing feeds did well but starting feeds were just about out of the picture. Turkey feeds are expected to build up in volume right up to slaughter time. Broiler feeds continued to hold on at a comparatively low level.

Good rains and cool days kept pastures in good shape and put a damper on dairy feed demand.

Broiler prices held steady in the Buffalo area at 21@23¢ lb. Eggs also held unchanged at 36@41¢ doz. for large and extra large white.

There was not much change in ingredient prices. Corn held about steady. Now crop barley was being harvested in some states. Some of it is pretty badly weathered and prices were off 1@2¢. Oats, also nearing new crop time, were down 1@1½¢. Feed wheat held unchanged.

Molasses weakened at New Orleans and Baltimore and prices were expected to react sympathetically in this area soon.

Middlings were in a little better demand than bran. Mixer business improved slightly from the previous week, with most of the upturn centered in poultry demand, although there was some improvement in dairy demand.

Pacific Northwest

Formula feed values carried an unsettled undertone as the result of weak to $1 ton lower prices for some ingredients during the past week.

The harvesting of new crop California barley had a depressing effect on the millfeed market and prices to mixers declined 50¢ ton from a week earlier.

Meal prices averaged unchanged to $1 ton lower with slow trading prevailing. Linseed meal listings declined $1 ton while soybean and cottonseed meals were unchanged with a steady undertone.

The demand for egg mash and other laying flock rations appeared more dependable in the face of continued reports of a better egg-feed ratio and a 2 to 3¢ doz. advance in prices to producers for large and medium sized eggs. Quotations to

(Continued on page 86)

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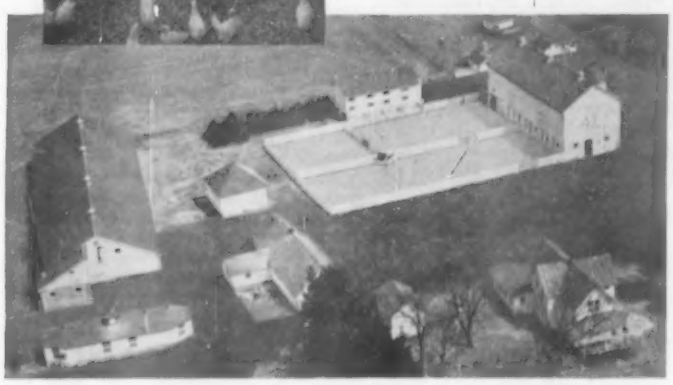

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Philip H. Knowles

General Mills Sets Up New Sales Region, Names Personnel

MINNEAPOLIS—The feed division of General Mills, Inc., Minneapolis, has announced the creation of a new sales region and appointment of personnel to key positions.

D. H. McVey, feed division vice president and general manager, said the new southwestern region is made up of Texas, Louisiana, and portions of adjoining states. Fort Worth is headquarters for administrative purposes.

To serve the area with a complete line of Larro Surefeeds, a new 50,000-ton feed mill is now being built at Fort Worth. It will open sometime in August.

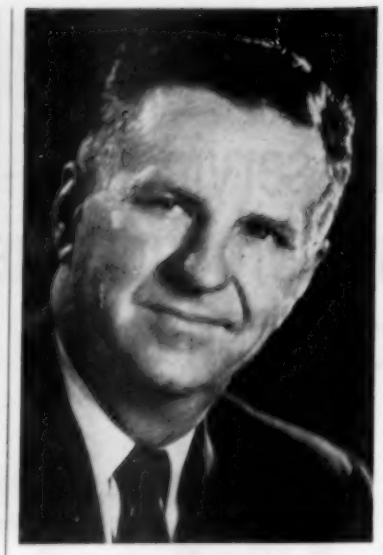
The new region had been served by the firm's south central division, which headquarters at Kansas City. A growing sales volume and increased interest in livestock feeding throughout the southwestern states contributed to creation of the new region, Mr. McVey said.

Philip H. Knowles, in the firm's Kansas City purchasing department since 1949 and a member of the company since 1941, will handle purchasing, operations control and traffic. He will also serve as community representative in the Fort Worth area.

The plant superintendent will be Joseph F. Ziemianski, who started with the firm in 1942 and worked his way up to his present position as production superintendent of the firm's Rossford, Ohio, plant. Mr. Ziemianski is now in Fort Worth supervising installation of equipment in the new mill.

Credit and office management duties will be assumed by Robert F. Morrison, who started with the company in 1947 and has been in the credit department at Detroit regional headquarters since 1952. Mr. Morrison earlier served in the company's Minneapolis general office.

H. B. Herron, feed division director of sales, has named M. H. Oeffinger as southwestern regional sales manager. Mr. Oeffinger has been a district sales manager since 1945, with residence in Texarkana, Ark. He will soon move to Fort Worth.



M. H. Oeffinger

Mr. Oeffinger will have two new district sales managers in the southwestern region, Mr. Herron said. They are J. A. Reeves and V. G. Shocklee.

Mr. Reeves will handle district 1, with headquarters in Arcadia, La. He has been an east Texas and Louisiana salesman since joining the company in 1952.

Mr. Shocklee, who joined the firm in 1941, will manage sales in district 2 and will work out of Fort Worth. For the past few years he has been office sales supervisor in the company's Kansas City office.

W. H. Bridges will become office sales supervisor and merchandising manager and will move to Fort Worth. Mr. Bridges joined the company in 1951 and for the past few years has been merchandising manager for the south central region, headquartered at Kansas City.

Edward Agan Retires From Carey Salt Co.

KANSAS CITY — Edward Agan, territory salesman in the Kansas City district for the Carey Salt Co., retired July 1.

Mr. Agan completed 23 years of service as a Carey salesman. He is succeeded by Wendell F. Weisbrod, promoted from resale salesman in the Kansas City district.

JUNIOR SHOW PLANNED

COLUMBIA, TENN.—The Tennessee Junior Cattlemen's field day and beef heifer show will be held here at the Maury County fairgrounds Aug. 8, William P. Tyrrell, Tennessee extension animal husbandman, announces. Competition is limited to 4-H and FFA members between the ages of 10 and 20 inclusive.

Serious Grasshopper Outbreak Spreads In California

SAN FRANCISCO — The grasshopper invasion spread from two north central California counties into many other areas last week, and threatened to become the most serious infestation to crop growers in many years.

Arthur Seeley, county agricultural commissioner of Contra Costa County, termed it "the worst invasion I've seen in years," and said that 200,000 acres of his county's vineyards, orchards, truck and field crops were endangered by the attack.

Chemical spraying operations both from the land and from the air were begun in this county as well as several other counties.

Similarly affected was Alameda County, immediately adjoining on the east shore of San Francisco Bay. Stanislaus County was also invaded. The invasion had become of "potential concern in nearly every valley county you can mention," according to Robert Harper, chief of the state bureau of entomology. Invasions of Butte and Tehama counties were reported earlier.

Meanwhile in south central part of the state, Santa Maria invasions forced closing of highway 101 temporarily while planes sprayed the area with insecticides. James Jones, agricultural inspector, said it was the worst outbreak of grasshoppers in recent years, with 7,000 acres threatened. There was a reported $100,000 damage in Santa Barbara County already this year, and spraying operations were stepped up.

Two Veteran Officers Retire from Firm

GREAT FALLS, MONT.—Two key figures in the operations of the Montana Flour Mills Co., Rodney J. Anderson, first vice president, assistant general manager and secretary, and Robert J. Huss, vice president in charge of the Montana elevator division, retired June 30. Both had been with the organization for more than 40 years.

Mr. Anderson began his milling career 57 years ago as a stenographer. He purchased an interest in the Grafton Roller Mill Co. in 1910, but left the following year to join four others in the formation of the Montana Flour Mills Co., which purchased the Grafton firm. He is the only one of the founders still living.

Mr. Huss first entered the hotel business, then worked for a railroad construction firm, and finally entered the company's employ in 1917 as a clerk in the general office which was then at Lewistown, Mont. About 1921 he was put in charge of the elevator division accounting department. On July 1, 1948 he was made manager of the elevator division, and on Oct. 4, 1955, he was elected a vice president of the company.

Irving Lintner

Feed Man to Head New Jersey Group

TRENTON, N. J.—Irving Lintner, secretary of Sunrise Milling Co., Somerville, N. J., has been appointed by the New Jersey state board of agriculture to serve in a newly formed New Jersey Poultry Products Promotion Council.

His appointment follows the recent signing of a state bill drafted for promotion of the state's poultry products. A special appropriation of $100,000 will be advanced for advertising and promotion. Plans call for the initial appropriation to be repaid from tax revenues collected from poultrymen of the state.

The tax will be 1¢ for each 100 lb. feed, and it will be paid by poultry and egg inspectors with feed distributors acting as collectors.

Dr. Robert Sifferd to Aid Pratt Research

HAMMOND, IND. — The Pratt Food Co., Hammond, Ind., has acquired the services of Dr. Robert H. Sifferd, an authority in the field of medical biochemicals.

In making the announcement, Richard Shanaman, Pratt president, said that Dr. Sifferd will assist Pratt Laboratories on a consulting basis in the development of new products for use in the animal health industry.

Dr. Sifferd maintains his own laboratories at Joliet, Ill. He began his career with the laboratories of Armour & Co., Chicago, in 1938, where he did laboratory, process development and pilot plant work until 1947 when he formed the Bio Process Co., Inc., McCook and Joliet, Ill. In 1951 Dr. Sifferd again became associated with Armour when it acquired Bio Process Co., Inc., serving in general technical liaison. In December, 1956, Dr. Sifferd reverted to a consulting status with Armour and has been conducting independent research since.

NORTHWEST OUTING—The 266 persons at the Northwest Feed Manufacturers Assn. outing at the Golden Valley Country Club near Minneapolis provided enough of a turnout to fill the golf course and supply a good-size gallery, too. The above pictures show some from each category. Left to right: Earl H. Hanson, Archer-Daniels-Midland Co.; J. J. Jacoby, Thompson-Hayward Chemical Co.; E. J. Lang, Jr., Iowa Limestone Co.; L. O. Hauskins, Nutrena Mills, Inc. (signing register); Miles Dallison, Bemis Bro. Bag Co. (with cap); Ivan Scanlan, Ivan Scanlan & Co.; W. D. Bynell, Peavey Feed Mills; Herman Bohne, Northwest Cooperative Mills, Inc.; Howard Guiden, Howard Guiden Co., and Ted Harstad, Doughboy Industries, Inc.

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The *Original* Pneumatic Bulk Truck

Pipes feed by air through a flexible steel hose to any bin...fast. Has almost unlimited "reach" and "lift." Handles mashes... pellets...and flaked, rolled, or whole grains, with or without molasses. Multiple compartments permit different feeds to be carried in same load without intermixing. A self-loading device (optional) makes possible two-way pay loads. Models available with capacities from 385 to 1350 cu. ft. Normally, capacities over 678 cu. ft. come in semi-trailer units.

Feed Piper is a trademark of Sprout-Waldron & Co., Inc.

SAVE MONEY! SAVE TIME! SAVE TROUBLE!

In every way, you'll save in the **end** when you **start** planning your own bulk delivery system through Sprout-Waldron. **Only** Sprout-Waldron offers the **BIG PLUS** values that are absolutely vital for a money-making, money-saving bulk system.

At Sprout-Waldron you have the widest possible selection of the most advanced pneumatic bulk trucks and all necessary auxiliary equipment...

PLUS expert engineering counsel and guidance on your bulk handling requirements as well as on installations for your customers...

PLUS personal instruction on maintenance and operation...

PLUS a dependable source for spare parts...

PLUS fast service for major repairs...

PLUS a reliability based on 90 years of service to the feed industry.

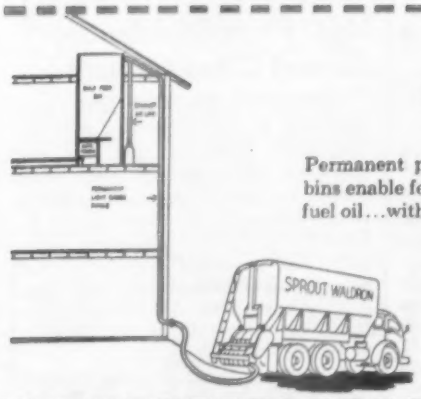
Sprout-Waldron's **BIG PLUS** advantages have put hundreds of feed millers in the bulk business on a profitable, more competitive basis. They can prove it pays to go bulk via Sprout-Waldron. Ask them. Names on request. And for more complete details on Sprout-Waldron bulk feed delivery equipment, write for Bulletin 156 today.

Feed Piper Conversion Unit

Makes your present truck a bulk truck with a pneumatic unloading system. Has the unloading advantages of the regular Feed Piper Bulk Truck. Enables you to meet bulk competition at low cost. Can be assembled and installed on do-it-yourself basis if desired.

Bulk Receiving Stations

Designs, engineering services, and major equipment for bulk feed receiving and distributing stations are available through Sprout-Waldron. Such stations can be located at RR sidings remote from the mill.



Permanent Pipe Installations

Permanent pipe installations to farmers' bins enable feed to be delivered as easily as fuel oil...without dusting Sprout-Waldron provides—without cost—guidance and complete information.

Free Sales Aids

Booklets on farm bins and on Feed Piper service and mats for newspaper ads are available for you to use in promoting bulk business locally. They help put you on a big-volume, profitable basis quickly.

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gallery, too. The above pictures show some from each category. Left to right: Earl H. Hanson, Archer-Daniels-Midland Co.; J. J. Jacoby, Thompson-Hay-Mills; Herman Bohne, Northwest Cooperative Mills, Inc.; Howard Gulden, Howard Gulden Co., and Ted Harstad, Doughboy Industries, Inc.

Program Planned For New England Feedmen Meeting

STORRS, CONN.—A panel on the "Competitive Situation of the Poultry Industry in New England" will highlight the conference of New England Feedmen scheduled Aug. 15-16 at the University of Connecticut.

Dr. L. D. Matterson of the poultry science department at the University will be moderator. Members of the panel and their topics for discussion are Dee Noreen, Armour-Chesapeake Co., Salisbury, Md., broilers; Carrol Dunham, Southbury, Conn., market eggs; Hank Weber, Glastonbury, Conn., hatchery eggs; Walter Bishop, Agriculture Co. of Pan-America, Guilford, Conn., foreign trade.

The panel is part of a program that covers many feed problems including sales, credit, and scientific advancements.

Speakers the first day, following the morning panel, are Garland E. Benton, director of feed distribution, Southern States Cooperative, Richmond, Va., on developing a sales department and training salesmen; Jack Dalton, cashier, Mechanics National Bank, Concord, N. H., on the credit situation; Dr. E. P. Singsen, poultry scientist, University of Connecticut, on his observations of the poultry industry in Germany.

Speakers the second day will cover sales, dairy management and medicaments. A panel on "How to Sell Your Products" will have George Hunter, Portland, Maine, radio commentator, as moderator and Ralph Weed, district sales manager of the feed supplement division of the American Cyanamid Co., Pearl River, N. Y.; Charles Fletcher, sales manager, Merrimack Farmers Exchange, Concord, N. H.; and Charles Congdon, Congdon Grain & Coal Co., West Warwick, R. I., as members.

Dr. G. K. Hopson, DeLaval Separator Co., Poughkeepsie, N. Y., will discuss "Feeding, Milking and Mastitis," and Dr. William C. Gittinger, Chas. Pfizer & Co., Inc., Brooklyn, will speak on the "Recent Scientific Breakthrough in Medicine" in the other addresses scheduled for the morning.

A steak fry is scheduled for the evening of Aug. 15 at the livestock arena of the Ratcliffe Hicks School of Agriculture.

Registration for the two-day session opens at 9 a. m. Aug. 15. Sessions will be held in the College of Agriculture auditorium. Co-chairmen of the conference are Dr. H. D. Eaton and Dr. L. D. Matterson of the university faculty.

Brewery for Sale As Feed Plant

LA CROSSE, WIS. — A brewery here which has discontinued business is up for sale as a feed plant, company officials have announced.

La Crosse Breweries, Inc., brewer of Peerless beer, has assigned the brand name Peerless to the Potosi (Wis.) Brewing Co. and is removing specialized brewing machinery from the plant. The owners believe that the brewhouse area of the plant, with its remaining equipment, could serve as a feed mixing plant.

Rate Cut on Westbound Meat Effective Aug. 15

SAN FRANCISCO — The Trans Continental Freight Bureau has announced that westbound rates on fresh meats and packinghouse products will be cut effective Aug. 15.

This move, termed a "threat to the western livestock feed and meat packing industries" by E. Floyd Forbes, president of the Western States Meat Packers Assn., will be appealed by Mr. Forbes. Charles E. Blaine & Son, representing the meat packers, has moved to file a request with the Interstate Commerce Commission for suspension of the new rates and has asked for a public hearing.

Cottonseed Hulls As Roughage Discussed

FAYETTEVILLE, ARK. — When cottonseed hulls are plentiful, they can be used satisfactorily as roughage for dairy cattle if properly supplemented with a concentrate mix, a University of Arkansas research assistant told members of the American Dairy Science Assn. this week at their annual meeting at Oklahoma State University.

Eugene Morris, graduate assistant at the University of Arkansas Agricultural Experiment Station, made the statement as he discussed supplementation of cottonseed hulls with an alcohol molasses urea preparation or with cottonseed meal.

He based the statement on an experiment in which Holstein heifers were fed individually in tie stalls for 114 days, and body weights were obtained weekly. Seven heifers that received cottonseed hulls plus 3 lb. daily of a concentrate mix made up of two parts cottonseed meal and one part corn made an average daily gain of 0.956 lb., and consumed 19.40 lb. of roughage daily. Seven other heifers receiving the alcohol urea preparation as a supplement to cottonseed hulls made a nearly comparable gain for the 114-day feeding period.

Mr. Morris also said that if native grass hays are properly supplemented with grain, they furnish an excellent source of feed for wintering dairy heifers.

Also speaking at the meeting were Dr. O. H. Horton and Dr. O. T. Stallcup, who reported on other phases of dairy cattle nutrition research at the Arkansas Agricultural Experiment Station.

International Milling Gets $5 Million Loan

MINNEAPOLIS — International Milling Co. has completed negotiations for a long-term, unsecured loan of $5 million at an annual interest rate of 4¾%.

"Continued growth and expansion of the company's business make it desirable to issue this new long-term note at this time," stated Malcolm B. McDonald, vice president and treasurer.

All proceeds will be added to the working capital of International and will be used for general corporate purposes, Mr. McDonald said. The loan will be liquidated over a period of 25 years.

Kidder, Peabody & Co., Inc., New York City, is the agent through whom the loan was placed.

WELL WISHERS—This foursome of "youngsters" gathered to cheer up their junior members—in terms of years of association with the feed industry—at the recent golf outing of the Northwest Feed Manufacturers Assn. at the Golden Valley Country Club, near Minneapolis. Reclining in a lounge chair is William J. Westerman, vice president, Oyster Shell Products Corp., St. Louis, who is recuperating from a broken leg suffered in an automobile accident in April. Autographing the cast is Ted Paulsen, who retired from the Russell-Miller Milling Co. in 1956. At the left is E. F. Morris, Vitaron Chemical Manufacturing Co., and in center is George W. Smith, who is retired from the Archer-Daniels-Midland Co. The years of association with the feed industry are as follows: Mr. Smith, 38 years; Mr. Morris, 35 years with Dawe's Laboratories prior to joining Vitaron; Mr. Paulsen, 44 years with Russell-Miller, prior to joining the Flour City Brush Co., Minneapolis; and Mr. Westerman, 34 years. All are from Minneapolis except Mr. Westerman.

Dawe's to Distribute Enzyme Which Boosts Barley Feeding Value

CHICAGO — Dawe's Laboratories announces that it has completed arrangements with Takamine Laboratory, Clifton, N. J., to distribute exclusively Takamine's Clarase 300, fermentation enzyme, to feed manufacturers.

Takamine is the sole producer of Clarase 300, the food grade of a multiple enzyme system material used by Drs. Jensen, McGinnis and associates, Washington State College, to make barley equal to corn in supporting chick growth and in feed efficiency, the announcement said.

A feed grade of this enzyme system under the name DaweNzyme is available, a spokesman for Dawe's said.

While the Washington State work reported was done with chicks and turkey poults, scientists believe that what they have found may apply to other single-stomach animals as well as poultry.

"This discovery and the ready availability of the fermentation enzyme to feed manufacturers have far-reaching economic implications," the announcement said. "It, of course, will have its greatest effect in barley producing areas where corn is deficient and high priced.

"The enzyme treatment, so far, has worked best with barley and rye. There is a speculation that the enzyme will work to improve wheat, soybean meal and even corn itself. Much research work remains to be done."

Dawe's, with a plant at Auburn, Wash., will work in close collaboration with the Washington State College scientists in furthering the development, both from the biological testing and feed development standpoints. Construction of production facilities in Washington is being considered. Takamine is also conducting research in the field of enzyme development for feed applications, according to the announcement.

This fermentation enzyme will be priced at levels calculated to encourage its widespread use, and it is estimated that initial pricing, with improvement in enzyme production techniques and mass production, can be reduced, the announcement said. "Even at present cost, where there is a differential between corn and barley prices such as exists on the West Coast, the enzyme treatment can result in substantial savings."

Dawe's is making available test-quantity samples of the enzyme to research workers in the feed industry and agricultural experiment stations.

FOREIGN GROUPS TO VISIT APHF MEETING

KANSAS CITY—A number of foreign visitors who will be touring the U.S. at the time are expected to attend the annual meeting and exhibition of the American Poultry Hatchery Federation in Kansas City, July 16-18. Among them are Thomas E. Whittle, head of the poultry department of the West Scotland Agricultural College, Auchingruive, Ayr, Scotland, who also plans to visit a number of state experiment stations and colleges. Another group from Brazil, composed of poultrymen and technicians, is scheduled to spend some time at the meeting on a tour sponsored by the state department.

IMC Pays Dividends; Report Cites Growth

CHICAGO — Dividend checks representing $1 per share on the 4% cumulative preferred and 40¢ per share on the common stock were mailed to share holders of International Minerals & Chemical Corp. June 30. Both were quarterly dividends, the preferred being the 61st consecutive payment and the common shares the 51st consecutive. Both were payable to shareholders of record June 14.

A brochure accompanying the dividend checks reported that production of concentrated superphosphate fertilizers and feed phosphates at the new Bonnie plant near Bartow, Fla., which was established in 1954, has increased from 34,000 tons to 235,000 tons. The brochure said new facilities are under construction at the Bonnie plant which will double its present output.

Millfeed Production Decreases Slightly

Production of millfeed in tons for week ending June 22, and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72% flour production.

	Southwest* Weekly production	Southwest* Crop year to date	Northwest* Weekly production	Northwest* Crop year to date	Buffalo† Weekly production	Buffalo† Crop year to date	Combined** Weekly production	Combined** Crop yr. to date
June 24-22	24,320	1,389,282	14,342	718,741	11,075	576,465	49,737	2,684,488
Prev. week	125,766		114,124		111,003		250,893	
Two wks. ago ..	26,381		13,272		12,960		51,714	
1956	23,626	1,364,441	12,686	690,936	9,710	514,433	46,022	2,509,810
1955	24,806	1,277,363	11,673	780,596	10,103	576,274	46,581	2,634,232
1954	22,466	1,324,870	12,017	698,674	9,660	541,978	44,143	2,465,520
1953	22,045	1,319,001	13,762	767,983	9,542	547,370	44,349	2,634,354

*Principal mills. **74% of total capacity. †All mills. ‡Revised.

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Western Canada's Crop Prospects Generally Good

WINNIPEG — Western Canada's crop prospects remain generally favorable largely because of reasonable temperatures and almost continuous precipitation in the form of light showers. While some heavy rains have been recorded, most of the precipitation during the growing season has been made up of light to heavy showers that, in total, place the aggregate since April close to normal in many areas. Manitoba for the most part has had above normal rainfall, while less than normal rains have fallen on a large acreage in eastern Alberta and the western half of Saskatchewan.

Crops in the drier areas would deteriorate quickly in the event of any prolonged hot spell prior to heavy general rains. Over most of Manitoba, however, warm sunny weather with drying winds is required as crops on water-logged soil are starting to lose color.

Early sown wheat and barley are now heading and fall rye is filling well, although stands of the latter generally are light. There are many good stands of flax and oats are well stooled. If present conditions can be maintained, western Canada will harvest a better than average crop. Some large areas give promise of heavy yields.

The frequent showers and rains have interfered with spraying operations for weed control.

F. J. Blacker Retires From Spencer Post

BUFFALO—Fred J. Blacker, manager of the import-export department of Spencer Kellogg & Sons, Inc., and secretary of the company, retired June 30 after 40 years with the firm.

Mr. Blacker became associated with the company in 1917 and worked his way up from a junior clerk in the accounting department to the positions he occupied at the time of his retirement. His business career first began with the Pennsylvania Railroad Co. in Buffalo.

His retirement plans are indefinite, but may include a new connection in another line of business next fall.

ADM Report Qualifies As "Oscar" Candidate

MINNEAPOLIS — Archer-Daniels-Midland Co.'s 1956 annual report to stockholders has received a merit award for excellence from Financial World magazine.

The award qualifies the ADM report as a candidate for the "Oscar of Industry" trophy presented by the financial publication for the best annual report in the company's industrial classification.

In commenting on the award, Financial World called it "a tribute to management for its effort in making this important report of a year's operations more meaningful to shareholders, investors and the public."

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James E. Sharon

James E. Sharon Joins Staff of Feedstuffs

MINNEAPOLIS—James E. Sharon has joined the staff of Feedstuffs as editorial assistant.

Mr. Sharon recently was an associate editor of The Farmer, regional farm paper published in St. Paul. He previously was farm editor of a daily newspaper in Michigan.

He grew up on a farm in central Iowa and graduated from Iowa State College in 1950 with a degree in agricultural journalism. While at Iowa State he was editor of the Iowa Agriculturist and an assistant extension editor.

Following graduation he toured the U.S. as an agricultural relations specialist for Borden Co. He was recalled to military service for two years and served as an artillery and public relations officer in Germany.

Mr. Sharon is a resident of suburban St. Paul. He is married and has three children.

80 Students Will Attend Egg School

STATE COLLEGE, MISS. — Approximately 80 students from nine southeastern states have registered for the second annual Southeastern Egg Quality and Grading School at Mississippi State College here the week of July 8.

J. Paul Williams, executive secretary of the Southeastern Poultry & Egg Assn., and James E. Hill, head of the Mississippi State Poultry Department, noted that a third of the students are from Mississippi. They include egg inspectors of the state department of agriculture, county agents and vocational agriculture teachers and commercial poultry farmers and egg handlers.

The school, which will feature four days of intensive theoretical and practical work on egg quality, is sponsored by SEPEA in cooperation with Mississippi State, the Mississippi Poultry Improvement Assn. and the Mississippi and U.S. Departments of Agriculture. A feature July 10 will be the MPIA's chicken barbecue.

Students are registered from Georgia, Alabama, Mississippi, Tennessee, South Carolina, Florida, Kentucky, Virginia and Louisiana.

Manager Appointed For Bag Sales

NEW YORK—William A. Foran, Jr., has been appointed central district sales manager for kraft paper bags, Forest Products Division of Olin Mathieson Chemical Corp., reports J. R. Peat, sales manager for kraft paper and bags.

Mr. Foran will headquarter at the district sales office in Chicago. He was formerly kraft paper and bag sales representative for Minnesota and Wisconsin.

Victor Planning New Multi-Unit Plant

CHICAGO — Victor Chemical Works, Chicago, is planning the construction of a multi-unit organic chemicals plant at Mt. Pleasant, Tenn., Rothe Weigel, president, has announced.

"Engineering plans for the new plant are nearing completion, and construction is expected to begin within a few weeks," Mr. Weigel said. "Initial production will begin early in the fourth quarter of this year and when completed, the new plant will employ 40 to 50 people.

"This addition will augment Victor's organic chemical production capacity at Chicago Heights, Ill., and Nashville, Tenn., and will further diversify the company's line of chemicals now being offered across the nation," Mr. Weigel stated.

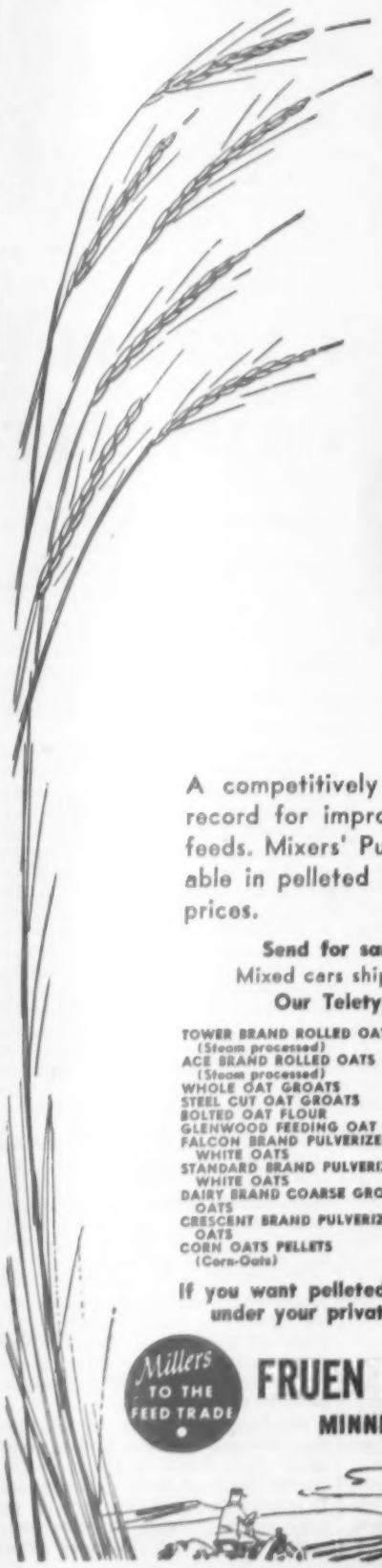
COLD STORAGE PLANNED

SALISBURY, MD. — George Melbourne, manager of the Swanson poultry processing plant here, announces that plans are under way to build a cold storage warehouse of some 15,000 to 20,000 sq. ft. The addition will be for the storage of the plant's finished products. It is part of a $3 million expansion program announced recently by the Campbell Soup Co.

NEW USDA ASSISTANT SECRETARY

WASHINGTON — Ezra Taft Benson, secretary of agriculture, is expected to announce that Don Paarlburg, his economic advisor, has been selected to succeed Earl L. Butz, assistant secretary, who retires at the end of last month to take over as dean of the school of agriculture at Purdue University. Dr. Paarlburg has been the front office man on the economic side and has written many of the most significant of Mr. Benson's speeches.

MIXERS' Pulverized OATS



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A competitively priced grade that has a record for improving the quality of mixed feeds. Mixers' Pulverized Oats is also available in pelleted form. Ask for samples and prices.

Send for samples and prices today
Mixed cars shipped at straight car prices
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TOWER BRAND ROLLED OATS (Steam processed)
ACE BRAND ROLLED OATS (Steam processed)
WHOLE OAT GROATS
STEEL CUT OAT GROATS
BOLTED OAT FLOUR
GLENWOOD FEEDING OAT MEAL
FALCON BRAND PULVERIZED WHITE OATS
STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
GROUND BARLEY
PEARLED BARLEY FLAKES (Max. 2½% fiber) (steam processed)
GLENWOOD PEARLED BARLEY
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STEEL CUT WHEAT
ACME GROUND DOMESTIC FLAX SCREENINGS

If you want pelleted and crumblized formula feeds under your private label, write us for details.

Millers TO THE FEED TRADE
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William R. Smith

Dannen Opens New Kansas City Office

ST. JOSEPH, MO.—The grain and jobbing division of Dannen Mills, Inc., St. Joseph, opened an office in the Board of Trade Building, Kansas City, July 1. William R. Smith, formerly with the Uhlmann Grain Co. in Kansas City, is manager of the office.

The opening of the office was announced by Dwight L. Dannen, company president, who said the step marks the culmination of several years of planning. The Dannen firm purchased a membership in the Kansas City Board of Trade last fall.

Mr. Smith, who has been in the grain business since 1922, will be in charge of the Kansas City office and also of the wheat section of the firm's grain department. E. A. Gumbert is manager of the grain and jobbing division with headquarters at St. Joseph. Prior to his association with the Uhlmann Grain Co. in 1947, Mr. Smith was with the Gooch Milling & Elevator Co. at Lincoln, Neb., and later was manager of the Salina Terminal Elevator Co. in Kansas City.

The Dannen firm operates a terminal grain elevator at St. Joseph and 22 country elevators in Kansas, Missouri, Iowa and Nebraska. The firm also operates an extensive tank farm for grain storage at Yale, Okla. Total storage facilities amount to 17 million bushels.

Revenue Service Says Molasses Use Dips

WASHINGTON — Molasses use in the manufacture of ethyl alcohol declined sharply during April 1957 to only about 15% of the amount used a month earlier and was less than 5% of the amount used in April 1956, according to the Internal Revenue Service.

Molasses used at industrial alcohol plants during the period July 1, 1956 to April 30, 1957 amounted to 32.1 million gallons, compared to 86.7 million gallons during the comparable period a year earlier. Molasses used by distilleries declined about 19% in April 1957 from March, and was only slightly more than one-third of the amount used in April 1956.

Molasses used in distilled spirits during the period July 1, 1956 to April 30, 1957 amounted to 1.7 million wine gallons, compared with 2.4 million used for this purpose during the same period a year earlier.

NEW BARLEY VARIETY

COLUMBIA, MO.—The B-475 barley variety has been recommended for use in Missouri, J. M. Poehlman, University of Missouri plant breeder, announced. He said the newly-recommended variety is more winter-hardy than the B-400, a previous favorite, and it also yields and threshes better.

$7.6 Billion Invested In Price Supports

WASHINGTON—The U.S. Department of Agriculture reports that as of May 31, 1957, the investment of the Commodity Credit Corp. in price-support programs amounted to $7,645,075,000.

The amount is made up of loans outstanding of $2,116,756,000 (including $434,851,521 of loans financed by lending agencies), and the cost value of inventories, $5,528,319,000. As of May 31, 1956, the investment was $8,500,534,000 of which loans outstanding amounted to $2,388,144,000 and inventories $6,112,390,000.

Price-support operations in four commodities accounted for the bulk of the May 31, 1957, loan total. The four are corn, upland cotton, tobacco and soybeans. The corn under loan totals 492,741,471 bu., and it has a value of $712,865,924. Soybeans under loan totaled 40,882,344 bu. with a total value of $86,137,899.

Major items in the inventory of CCC, in order of their total value, are wheat, corn, upland cotton, strategic material, rice, grain sorghum, cheese, barley, flaxseed, butter, dried milk, wool and oats.

Amounts of feed grains and supplies in the CCC inventory were as follows: Corn, 849,058,824 bu., $1,536,879,779; grain sorghum, 44,237,299 cwt., $103,831,695; barley, 54,822,180 bu., $65,309,357; flaxseed, 11,612,342 bu., $36,957,271; dried milk, 182,933,925 lb., $30,539,124; oats, 24,829,355 bu. $20,329,389.

Crop Prospects Promising in Corn Belt, Northern States

Crop prospects look promising throughout much of the Corn Belt and in northern border states, according to reports from a number of private reporting sources.

Corn and soybeans show a wide range of development in the main producing states, mainly because of frequent rains which have prolonged the planting season. Growth of both crops is behind last year and well below average over wide sections of the east central states and some adjoining areas. While corn and soybean prospects are good, they need sunshine and high temperatures to bring them along this month.

The outlook is for a high yielding oat crop throughout most of the area extending from the Lake region, westward to the Rockies, and including the Corn Belt. Harvesting of the new crop is making slow progress in the extreme southern Corn Belt as a result of wet weather. In the southeastern and mid-Atlantic states yields and quality of oats have been generally below average.

Flax prospects look good to excellent over most of the main producing areas in Minnesota, North and South Dakota and Montana. Moisture has been favorable for good growing conditions but has slowed growth in some areas, resulting in spotty development.

One private reporting service states that the acreage of flax, oats and barley is "amazing" and added that "it seems clear that much acreage originally planned for fallow was sown in late May and June to flax and barley due to the extremely favorable moisture situation."

APHF Exhibit Space All Sold Out

KANSAS CITY — All space has been sold for the exhibition of the American Poultry Hatchery Federation, held in connection with the annual meeting of the organization, which will take place in the Kansas City Auditorium July 16-18. There will be 186 exhibitors this year, officials of the organization reported.

Because of heavy sales of tickets, the annual banquet has been moved from the Muehlebach Hotel to the main arena of the auditorium, which can accommodate a much larger crowd.

Paul M. Marshall Dies Following Heart Attack

EVANSTON, ILL.—Paul M. Marshall, vice president of the National Soft Wheat Millers Assn., died here July 3 following a coronary thrombosis two days earlier.

Memorial services will be held in the Second Presbyterian church, Evanston, at 3 p.m. July 14.

Mrs. Marshall's address is 2025 Lincoln St., Evanston. She requests that flowers not be sent. Contributions may be made to the memorial fund of the church. Any such contributions should be sent directly to the church.

Tennessee Poultry Course Scheduled

KNOXVILLE—The annual poultry short course will be held at the University of Tennessee July 9, 10 and 11, Dr. O. E. Goff, head of the poultry department, announced this week.

The school will be conducted by the poultry department for the Tennessee Poultry Improvement Board, Dr. Goff said.

Accommodations are available in Knoxville motels and hotels, and those planning to attend have been asked to take care of their own reservations.

Wirthmore School

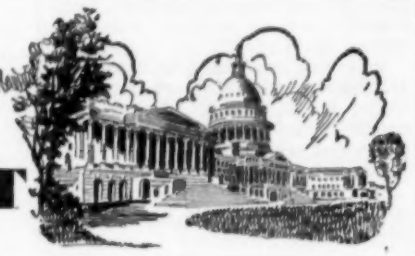
BALTIMORE—The latest information on feeds and new developments in feeding programs were features of a recent school for sales and service personnel of Wirthmore Feeds' southern division which was held at the Southern Hotel in Baltimore.

Roger Ham, district poultry supervisor for Wirthmore, was in charge of the poultry school, while Carl Abrahamson, dairy sales supervisor, was in charge of the dairy school, assisted by S. A. Claverie. Topics covered included dairy rations analysis, feeding for fitting dry cows, and progress at the company's new mill at Hickory, N. C.

Robin G. Swain, St. Regis, Dies

NEW YORK — Robin G. Swain, manager of the western district of the multiwall packaging division of St. Regis Paper Co., died June 23. Mr. Swain, 54, had been associated with St. Regis on the West Coast since 1928. He served in the U.S. Navy in both world wars and was a captain in the U.S. Naval Reserve. He is survived by his wife, Mrs. Marie R. Swain.

CAPITAL COMMENT



By John Cipperly

WASHINGTON—U.S. Department of Agriculture officials express some contrary opinions over the report in Feedstuffs (June 29, page 1) on the connotations of the proposed $1 cwt. discount on emergency feed certificates as being bearish and an indication of official fear of lower feed grain prices.

The report represented the views of Commodity Stabilization Service officials who agreed that the reduction in the discount for any new program from $1.50 cwt. to $1 indicated the probability that feed grain prices would be lower later this year. They stated that the decision to drop the level of value of drouth emergency feed certificates to $1 cwt. reflected the probability of heavy grain sorghum production and the availability of off-color oats in or near the normal drouth areas which would be an adequate payment and foreclose the necessity of importing corn into any drouth area which might develop later.

Suggest Other Effect

Following the publication of this news item, other officials at USDA, who decline to accept as reality a huge outturn of corn and other feed grains, say that if a drouth emergency program becomes necessary, the $1 discount will act to reduce the total available supply of feed grains and through indirection actually bolster corn prices since it will drain off the possible excess of sorghums and off-color oats which otherwise may find their way into competition with corn.

Nevertheless, it is not easy to view the commodity price outlook with other than doubt—short of despair on the basis of weather conditions. It is hard to see a poor crop on the basis of more than adequate moisture, even if there have been rained out or flooded out areas in the main Corn Belt and if some land has not been planted.

Past Record

One must go along with past winning performances which show that the corn crop fails through lack of starting moisture rather than adequate moisture. It is the belief here, after hearing reports from government officials and opinions of the private trade, that as of this date the prospects are for a heavy production of feed grains.

The pendulum is now swinging wildly between the bull and the bear and so rapidly that one can hardly measure the beats. Perhaps the July crop report due July 10 may crystallize the situation temporarily.

A. E. Staley Develops Molasses Concentrate

DECATUR, ILL.—Sweetone dried molasses concentrate, trade name of a new product made from cane blackstrap molasses, has been announced by the A. E. Staley Manufacturing Co., Decatur, Ill.

Company officials said that "in carefully controlled feeding tests, the concentrate stepped up rate of growth and increased feed conversion in both chickens and hogs as well as in cattle and lowered feed cost per pound of gain." It also has use as a silage preservative.

More than 420 lb. of water are removed per ton in manufacturing the product for a dry, free-flowing concentrate, according to the company. The firm's soybean millfeed is used as a carrier for the product, which carries a guarantee of 85% pure cane blackstrap molasses and 42% or more sugars. No other sugar source, coloring or flavoring is used.

Operation ProfiTopper at John Mann's farm, Pleasant Plains, Ill. Hundreds of swine growers, county agents, vo-ag teachers, students, veterinarians and feed dealers saw the ProfiTopper hogs.

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Operation ProfiTopper was staged this summer to re-emphasize that a complete formula feed program from birth to market pays off in highest net profits. This program was designed to broaden the acceptance for your swine rations. It was conducted at a typical farm in the Heart of Lincoln Land to determine, *in terms of actual profits*, the difference between feeding an ordinary corn-soy ration and one that is fully fortified with vitamins and antibiotics.

Operation ProfiTopper was a resounding success. The hogs that went all the way on complete formula feeds made the fastest and most economical gains. They showed greater uniformity in size, wasted less feed, exhibited better resistance to disease. Their cost of feed per cwt. of gain was lowest and their market price was highest.

Merck has already started to promote the results of Operation ProfiTopper to hog growers. *Operation ProfiTopper is working to your advantage.* So why not tie in with this program to build sales for your own brand of formula feed? Just see your Merck man or write directly to Rahway for the details. And remember, when you specify Merck for microingredients you also benefit from Merck's vast research and production facilities.

Research and Production for Better Animal Nutrition

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MINERAL NUTRITION OF RUMINANTS

By Dr. Gus Bohstedt
University of Wisconsin

***EDITOR'S NOTE:** A review of research on major minerals in ruminant nutrition is presented in the accompanying article by Dr. Gus Bohstedt of the University of Wisconsin animal husbandry department. Principal attention is given to various aspects of requirements and use of phosphorus. This article is the text of a paper presented at the Symposium on Mineral Nutrition, Lakeland, Fla., sponsored by International Minerals & Chemical Corp.*

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The major minerals only are considered here—more prominently the critical minerals, salt, phosphorus and calcium; less prominently those other major minerals that are present in relative abundance in ordinary feeds and rations, magnesium, potassium and sulfur.

Salt

Dr. S. M. Babcock in his early salt nutrition experiments with the dairy herd of the University of Wisconsin emphasized chlorine as the more important element in salt, but later work at Cornell and Wisconsin as well as other research institutions stresses sodium as the more essential part of salt for supplementing ordinary rations. One reason for this later finding is that most feeds making up rations have considerably more chlorine than they do sodium.

Research on salt in animal nutrition was greatly advanced 10 years ago by the Salt Producers Assn. that supported such work at several experiment stations and the U.S. Department of Agriculture. This work had to do with the establishment of salt requirements of the different classes of livestock and also salt tolerances, as was put to the test especially in the range country where salt during winter seasons or dry seasons has come to be used as a governor of consumption of oil meal when self-fed. In the case of cattle and sheep, salt varying from ¼ to ⅛ or more in the salt-oil meal mixture has controlled oil meal consumption at desired levels, which for cattle in most cases varied between 1 and 2 lb. daily per head. This control device has proved remarkably effective, leaving no obvious detrimental effects on either growing stock, feeder or stocker cattle, or the breeding herd.

Liberal water consumption has been found an important consideration in this connection. Recent evidence tends to show that during extremely cold weather such as occurs in some of the northwest Rocky Mountain states, cattle had better be self-fed the salt-oil meal mixture in a meal rather than a pelleted form. The latter may be eaten rather rapidly, with unfavorable results when the cattle are too far from water, or when water, though nearby, is too cold for ready consumption. A meal form of the salt-oil meal mixture under such conditions would be preferable, in which meal mixture the relatively large proportion of salt would have a greater inhibitory effect on consumption. But reasonably warm water rather than ice cold water, let alone ice covered water, is still highly desirable or necessary under those conditions.

Calcium

Considering common feeds or rations, calcium is of less importance in the feeding of ruminants as compared to that of pigs and poultry, always excepting areas that are extremely sandy or that have sand-derived marshy soil, the pastures of forage of which serve as the main or only feed crops for ruminants. Also baby beeves that during the last few months of fattening eat a great deal of corn or other grain, with just a few pounds of hay and silage and which may be of a grass nature, respond to supplementary calcium (1). Most dairymen have at least a fair proportion of legume forage mixed with the total roughage available and are in that way supplying liberal amounts of calcium as naturally contained in the rations. Even range grasses as they mature, and furthermore through weathering, lose other minerals, manage to hold onto their calcium better than their phosphorus, as was brought out many years ago by the South African workers, and which work will be referred to later. In controlled feeding experiments at Minnesota (2), with rations that had only 0.12% calcium, it was found difficult to starve cattle sufficiently on calcium to interfere with reproduction.

Magnesium, Potassium, Sulfur

Because of the relative abundance of magnesium and potassium in feeds and particularly forages, these major minerals do not, except in rare instances, constitute a nutritional problem. It has been stated that a calcium tetany or hypocalcemia causes hyperirritability of the neuromuscular system, but which can be depressed by additional intakes of magnesium. Sulfur as a nutrient has had an interesting recent history in that it has been demonstrated that ruminants by virtue of their rumen fermentation can utilize inorganic sulfur in the synthesis of sulfur-bearing amino acids. This appears to be of importance mainly where non-protein nitrogen compounds are used in unusually large proportions as protein substitutes in ruminant nutrition. Most feeds, especially nitrogenous feeds, are relatively rich in sulfur. However, mature grasses and grass hays are sometimes low in sulfur and may not furnish adequate amounts for optimal animal response, especially in the case of sheep. (3).

Phosphorus

This leaves phosphorus for consideration as a "major" mineral for ruminants, and it is a recognized fact that along with salt, phosphorus is a major mineral frequently lacking in rations. There is hardly a country under the sun but what has more or less severe phosphorus deficiencies in ruminants, especially cattle. The terminology in the different countries ranges all the way from pica and peg-leg to croitich and Knochenbruchigkeit. Where phosphorus supplementation of ordinary rations is actually called for or is for insurance sake used to supplement such rations, the cost of such a phosphorus carrier is apt to exceed that of all other supplementary minerals combined, therefore salt, trace minerals and calcium carbonate. Merely from this standpoint it points up the great importance of this mineral.

Ruminants are grazing animals subsisting mainly on forages that may consist of varying qualities of pasture, hay, silage or straw. Because of the nature of the forage, weather and soil conditions, or stage of growth when consumed or harvested, forages at times are very low in phosphorus, much lower than nutritional research has found necessary for the health and productiveness of ruminants. This applies not merely to legumes that, especially in dairy sections, make up a considerable part of the roughage consumed, but even to grasses that with advanced maturity of growth or even after having been weathered or "ground-cured" maintain their calcium fairly well. This is brought out in sharp contrast by the South African workers. (4) (See table 1.)

TABLE 1. Proximate Analyses of Dry Matter of Mixed Grasses in the South African Range Country

Dates on which collected	Protein %	Ca %	P %
Nov. 10, 1919	19.4	.22	.24
Dec. 8, 1919	14.3	.42	.14
Jan. 15, 1920	13.8	.36	.10
March 4, 1920	7.2	.31	.10
April 19, 1920	4.9	.33	.05
May 11, 1920	4.1	.36	.03
June 8, 1920	4.0	.42	.04

The very green grass of early spring (October to November) was highly nutritious, with a fairly high phosphorus content, "but after the seed has fallen" (April to May) the general feeding value, or "energy value," was reduced to less than half. The most striking feature was the extraordinarily low phosphorus content, which brought on osteophagia. This is among the earliest work demonstrating phosphorus deficiencies in livestock.

There are relatively minor exceptions with respect to calcium as compared to phosphorus deficiencies, and where in certain areas of the country calcium deficiencies may show up in ruminants.

Phytin, Ca:P Relationship and Availability of Phosphorus

It is appreciated that calcium and phosphorus have a chemical affinity for each other, and where suitable calcium:phosphorus ratios in the ration as a whole have been found of importance. For the larger farm animals suitable ratios vary from about 1 to 1.5 calcium:1 phosphorus, although ruminants have a greater tolerance for severely unbalanced Ca:P ratios, especially high calcium intakes, than have swine. (5) As proof of this, cows at times are fed little more than legume hay which may have a Ca:P ratio as wide as 6:1.

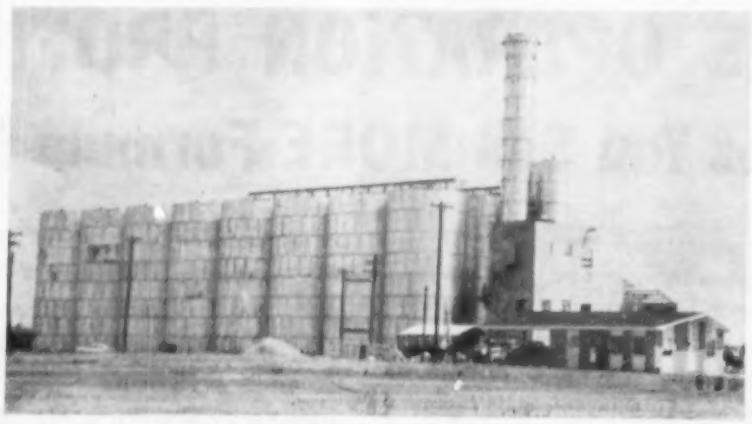
A wide Ca:P ratio, according to Mathur (6), has a bearing on the utilization of phytin phosphorus by ruminants, phytin being the calcium magnesium salt of phytic acid which in itself is inositolhexaphosphoric acid.

Phytin is poorly utilized by poultry, somewhat better by pigs as aided by the presence of vitamin D and phosphatases, and still better, though somewhat in controversy, by ruminants. Mathur, referring to previous work by Low and Steenbock with rats, postulates that with increasingly larger proportions of calcium in the ration, phytin phosphorus becomes less and less available. This is because it is thought that large amounts of calcium prevent splitting of phytic acid but instead precipitate it in the small intestine as calcium phytate. The bulk of phosphorus, some 80% or more, in dairy rations and also in fattening steer rations, is contained in the concentrates that are fed with the forage. But fully half of the phosphorus in grains and concentrates is in the form of phytin or phytic acid. The writer has often wondered how the growing and fattening pigs in

Donald E. Palmer

SALES POSITION—Donald E. Palmer has been appointed sales manager of the Peoria division of Nutrena Mills, Inc., subsidiary of Cargill, Inc., Minneapolis. He will be responsible for formula feed sales in northern Indiana and Illinois. He was formerly territory manager, cattle feed specialist and sales supervisor for the company's northern Indiana territory. He is a graduate of the University of Iowa.

National Alfalfa Completes New Storage Plant



Storage Facility of National Alfalfa at Memphis, Tenn.

MEMPHIS, TENN. — The new Memphis, Tenn., storage facility of National Alfalfa Dehydrating & Milling Co. has been completed. Now ready to receive bulk dehydrated alfalfa pellets are 16 steel hopper-bottom tanks, 32 ft. in diameter and 64 ft. high, with a total capacity of 16,000 tons. Inert gas will be used in the tanks to preserve vitamin A content of the alfalfa.

A self-supporting tower extends 72 ft. above the mill building and contains an elevator leg, cleaner, distributor and automatic scale. The plant is equipped to regrind pellets, oil-treat meal and sack material.

Set up to serve customers in the Southeast, the facility will receive dehydrated alfalfa pellets from National's Mississippi Valley dehydrating plants. Pellets will be brought in by trailer trucks to maintain the highest quality possible. The installation can also receive rail shipments, and, since it is located on President Island in the Mississippi River, will have provisions for handling barge movements. For loading out, the installation can handle both cars and trucks at the same time with either bulk or sacked material. Charles Goodson is manager of the plant.

his experiments conducted 20 years ago grew so well and efficiently on low calcium corn-soybean oil meal rations having a Ca:P ratio of 0.50:1.(7) In a few cases only 0.25% ground limestone was included in such a ration as the only mineral supplement outside of salt. It is possible that such a low level of calcium made for a more favorable calcium:phosphorus ratio considering the available phosphorus in the ration. Mathur observed that with a narrowing $CaO:P_2O_5$ ratio approaching 1:1 (1.96, 1.88, 1.86, 1.23), more and more of the phytic phosphorus was metabolized in the system of a cow, but a 1:1 ratio of CaO and P_2O_5 amounts to actually only 0.4 Ca:1 P on the elemental basis.

This raises the question whether typical dairy rations using forages that contain from ⅛ to ¼ by weight of legume forage or even its equivalent by way of good grass forage, ever need calcium supplementation. It is in most cases not a matter of utilizing but of tolerating such large amounts of calcium in legume hay or legume silage plus a customary 1% $CaCO_3$ in addition to any phosphate. And a cow may not be as tolerant of excessive amounts of calcium as one might think. It may have a bearing on the occurrence of milk fever, as will be touched on later.

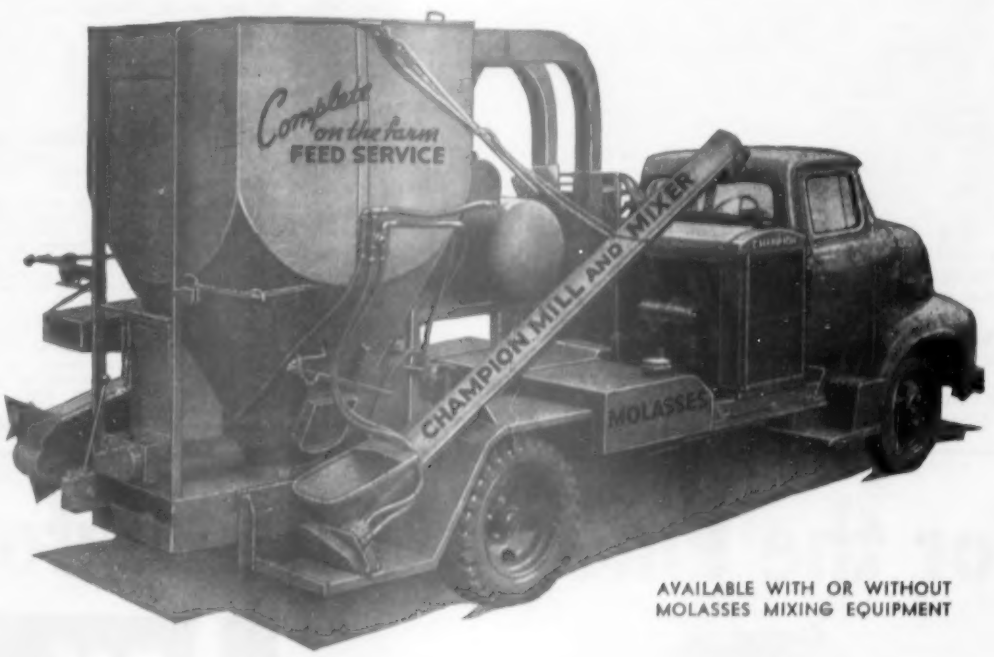
In 1936 the writer(8), presented a paper before the annual meeting of the American Society of Animal Production in Chicago calling attention to the excessive amounts of calcium in commercial and home-mixed mineral mixtures that were intended for ruminants or for livestock in general, having on the average some 5.9 times as much calcium as phosphorus. These figures were based on 47 mineral mixtures for cattle, licensed for sale in Wisconsin, and as reported in the annual bulletin "Commercial Feeds" of the Wisconsin Department of Agriculture. Thirty-six of the 47 mineral mixtures were quite high in calcium and low in phosphorus, therefore considerably wider than 6:1. In the 1956 publication of the same Department of Agriculture from which all 35 commercial minerals were taken that were intended for ruminants or for livestock in general, the average calcium:phosphorus ratio was 4.8:1, therefore after 20 years not very much of an improvement.

An excessive amount of calcium has been found to have a depressing effect not merely on the availability of phosphorus but also of several other minerals, as well as on the digestibility of protein and of energy.

Milk fever has become an increasing problem in dairy management, and reference has been made to disproportionately large amounts of calcium in relation to phosphorus in dairy cow rations. The California workers Boda and Cole(9) have called attention to the possibility that large amounts of calcium toward the end of lactation and during the dry period may be putting the parathyroid gland to sleep, as it were, by taking over its function but which normally is that, especially at parturition, of mobilizing the calcium of the body for the heavy demand for it for milk production. But where the parathyroid fails to respond quickly enough in this respect, the serum calcium is very low and milk fever results. Their experimental findings are enlightening in this respect. After feeding a low calcium:high phosphorus ration — 0.33 Ca:1 P—to their high-producing Jersey cows during the last part of lactation and during the dry period —many of the cows with previous histories of milk fever — the incidences of milk fever after parturition were greatly reduced. In their early work a relatively simple ration of oat hay and barley was fed previous to parturition, but in subsequent work(10) along with oat hay, the basal concentrate mixture consisted of ground barley 40, rolled barley 30, wheat bran 25, and cottonseed meal 5%. To this mixture varying amounts of mono-sodium phosphate were fed to different lots of cows.

The conclusion is that the various rations fed appear to have no appreciable influence on weight gains before parturition and had no adverse effect upon parturition, on the subsequent lactation, nor the health of the calves. The suggestion is made that the low calcium-high phosphorus diet asserts its milk fever preventive action by inducing a compensatory hypertrophy of the parathyroid glands, thus tending to avert the drop of serum calcium accompanying parturition and early lactation.

Phosphorus is known to serve many physiological purposes in the body, among them bone and nucleoprotein formation and maintenance, and fat and carbohydrate metabolism. In the latter cases phospholipids and glucophosphates are involved. A low phosphorus intake lowers the efficiency of energy utilization and lowers weight gains. Richard et al(11) report that the greatest resistance of lambs to stomach worm infection (Haemonchus contortus) in the several rations fed, was obtained by feeding cobalt and steamed bone meal in combination. The exact mechanism by which steamed bone meal functioned to increase resistance to stomach worm infection was not clear. It appeared, however, that when lambs were subjected to the severe strain of heavy parasitic infections, the requirements for factors contained in steamed



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bone meal were considerably increased.

Burroughs et al(12) point out that phosphorus, among other minerals, plays an important part in cellulose digestion in that it is needed by rumen organisms and where this principle was made use of in vitro experiments with an artificial rumen and graded amounts of phosphorus added at the beginning of a 24-hour fermentation period.(13) A fair agreement of such artificial rumen studies and actual feeding experiments would avoid a great deal of expense that is involved in the latter. From their actual feeding experiments Burroughs et al(14) suggest that the phosphorus requirement for good rumen function in fattening cattle is higher than the phosphorus requirement for bone growth and that future recommendations for practical phosphorus feeding levels will be based primarily on feedlot performance of cattle rather than on blood studies.

Phosphorus Carriers

Dicalcium phosphate in these tests (14) was superior to steamed bone meal, and Curacao rock phosphate and soft phosphate with colloidal clay were relatively poor sources of phosphorus. There was a similar order of efficiency in the artificial rumen studies as in the feedlot tests so far as dicalcium phosphate and soft phosphate with colloidal clay were concerned. Similar results with dicalcium phosphate and soft phosphate were secured by Long et al(15) using three groups of eight heifers and very low phosphorus basal rations of 0.09%, making for sharp differences between the differently supplemented rations. The basal ration that was supplemented with colloidal clay phosphorus caused heifers to exhibit pica, coprophagy and difficulty in walking. Heifers fed the same amount of phosphorus by way of dicalcium phosphorus were normal. Experiments such as this emphasize the need for low phosphorus basal rations and graded phosphorus supplementation of such basal rations in order to establish phosphorus requirements.

Jari(16) reports his results to be in agreement with those of Black et al(17) who found that disodium phosphate and bone meal were of the same values when fed to range cattle, as supplements to phosphorus deficient vegetation. He further states that in lactating cows the phosphorus was equally well utilized in bone meal, dicalcium phosphate, disodium phosphate and in an acid phosphate that had been added as a preservative to grass silage. With a vitamin D addition, the phytin phosphorus in wheat bran, amounting to 86% of its total phosphorus, was utilized up to 78% of the phosphorus as utilized in disodium phosphate.

Phosphorus Requirements vs. Allowances

Efforts on the part of subcommittees on livestock nutrition of the National Research Council during recent revisions have been more and more in the direction of nutrient requirements rather than allowances, which latter permit a greater or lesser margin of safety. Thus the 1957 report of the Committee on Nutrient Requirements of Sheep specifies a higher requirement of phosphorus for use in early gestation and fully as high for ewe lambs and yearlings as compared with their previous publication of Nutrient Allowances for Sheep. In general, considering that the more recent figures stand for requirements rather than allowances, the phosphorus levels in sheep rations seem to have been raised, suggesting that appropriate feeding tests have shown the need for doing so.

Percentagewise these requirements range from 0.14% to 0.22% phosphorus in rations for the different categories of sheep, both breeding stock, and growing and fattening, but where the higher levels are for early growth and lactations, therefore periods of greater stress.

Fattening yearling steers in the Iowa work in which dicalcium phosphate was used as a supplement suggested that on 0.25% phosphorus in the ration, the steers gained considerably better than on 0.18% phosphorus, and that 0.33% phosphorus was apparently needlessly high for cattle of that age and performance. However the source of phosphorus was an essential criterion, and 0.33% phosphorus as supplied mainly by soft phosphorus with colloidal clay gave no better results, if as good, as the basal ration with 0.18% phosphorus.

Dairy calves at Cornell University(18) grew better on rations with 0.22% phosphorus than on those with only 0.09 and 0.18% phosphorus. A level of 0.30% phosphorus seemed to them a liberal allowance, the phosphorus allowances of the National Research Council being 0.40% phosphorus for calves 200 lb. in weight. The latter therefore, according to these tests, afford a generous margin of nutritional safety. Mature cattle appear to get along well on less phosphorus than growing stock, perhaps ⅔ as much, unless under severe stress of production when the requirement may be as high as for young stock beyond the age of very young calves.

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CARGILL MAN ELECTED

MINNEAPOLIS — S. J. Mahoney, general manager of the wire communications department of Cargill, Inc., was elected treasurer of the Industrial Communications Assn. at the annual meeting of the group recently. Membership in the association comprises communications directors of 80 firms operating coast-to-coast wire systems.

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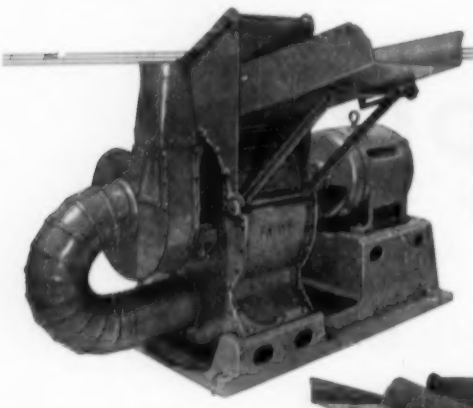

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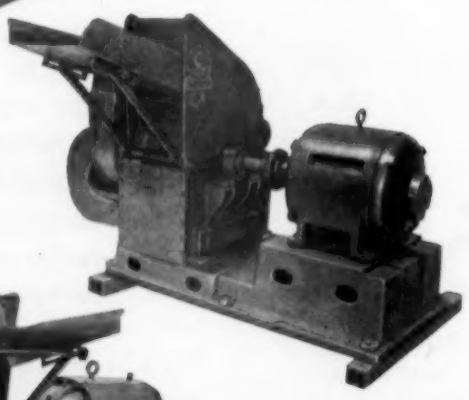

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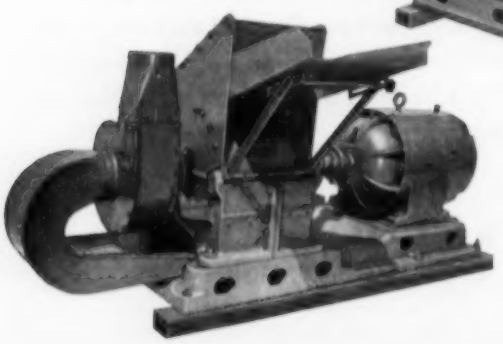

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This is one of a new series of advertisements appearing in farm magazines. They encourage farmers to talk over with you the advantages of including Du Pont "Two-Sixty-Two" in their cattle and sheep feeds, and thus help you sell feed.

Feed Facts Worth Talking Over
You can depend on your feed man to supply you with balanced rations and also information on economical cattle nutrition. Be sure to ask him about the advantages Du Pont "Two-Sixty-Two" offers in your protein supplement.
Ask your feed man how Du Pont TWO-SIXTY-TWO® FEED COMPOUND turns feed dollars into profits
You: "I consider feed as an investment, and one that has to more than pay for itself. So to increase my dairy profits, Du Pont 'Two-Sixty-Two' should help me get more milk from every dollar that I invest in feed."
Your Feed Man: "And it does just that. But before your dairy cows can convert feed into milk, they have to digest the coarse fibers and celluloses in grain as well as in roughage—turn them into milk-making nutrients."
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Your Feed Man: "They certainly do, and Du Pont 'Two-Sixty-Two' nourishes and stimulates these rumen organisms . . . actually helps them multiply faster. So billions of them are better able to convert grain and roughage into digestible nutrients . . . do it more thoroughly."
You: "Then 'Two-Sixty-Two' feeds the . . . then feed my dairy cows."
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Microscopy Assumes More Importance As Tool in Feed Quality Control Work

BOSTON — Microscopy as a tool in feed quality control and in state control work is assuming more and more importance.

An example of industry use of the microscope in the identification and inspection of feed ingredients is found in the research laboratory of Wirthmore Feeds.

The use of the microscope was emphasized to a greater extent than before with the relatively recent addition of Clarence Roelle to the laboratory staff.

Mr. Roelle, who formerly headed the analytical laboratory at Kasco Mills, Toledo, has been interested in microscopy for many years and has been serving as vice president of the American Association of Feed Microscopists, of which he is a charter member.

There is no question that the use of the microscope in quality control is of growing significance, said Mr. Roelle.

Not Actually New

Use of the microscope in distinguishing the characteristics of feed particles is not really new, he points out, for it has been employed in the feed industry almost from its beginning. Also, some state feed control laboratories were using the microscope as an aid in their control work as far back as 1907. Wirthmore scientists also used the instrument in their laboratory studies for a number of years.

However, said Mr. Roelle, it is only since 1953 that a determined effort has been made to acquaint the entire industry with the full potential of the microscope in improving feed quality.

Early in that year, Bruce Poundstone of the Kentucky Agricultural Experiment Station, decided that something should be done to educate the feed industry in better quality control through the aid of microscopy. A letter was sent to all state laboratories, and several feed manufacturers were invited to send representatives to a workshop at Lexington. A total of 32 persons responded and organized the American Association of Feed Microscopists. Three days were spent at the first session, during which the experiences and methods of the various representatives were studied. It was decided to continue work along this line, with another meeting scheduled for the following year. Forty persons turned out for the second meeting at Columbus, Ohio, and the organization's activities picked up momentum.

At the first meeting, state representatives outnumbered those from industry 20 to 12, it was pointed out, but at the second meeting industry representation increased to 22, compared with 18 for the states. In following years, attendance continued to increase.

Mr. Roelle points out that feed microscopists use the microscope to help identify the ingredients furnishing the various nutrients. Because each ingredient maintains certain characteristics throughout the manufacturing process, it can be distinguished by an experienced microscopist from its shape, color or form, even after it has been finely ground and mixed with other ingredients.

As a matter of fact, said Mr. Roelle, this is the only practical means of determining the actual physical structure of a finished feed, since chemical analyses can only reveal the percentage levels of the various nutrients and give no clue as to their ingredient sources.

For example, said Mr. Roelle, an unscrupulous manufacturer could use ground feathers, cow hides or horses' hooves to furnish the required amount of protein, however inferior, in a feed. Chemical analyses would show the same level of crude protein present as in a ration containing protein sources such as fish and meat meal. However, Mr. Roelle noted, when a trained microscopist turned his lenses on the particles making up the feed, objectionable components could be readily detected from their physical characteristics.

In the same way, a microscopist can identify materials which may be used to adulterate a high grade ingredient.

Recognizing Ingredients

"Using the low power microscope and magnifications of 3 to 30 times, most common ingredients may be recognized," Mr. Roelle said. "With the aid of higher magnifications, minerals and trace minerals may be identified. High power microscopes, used in conjunction with ultraviolet and polarized light, make even more difficult detection possible.

"For example, the blending of sun-cured alfalfa with dehydrated alfalfa meal and the substitution of rock phosphate for dicalcium phosphate can be readily detected. Furthermore, the adulteration of meat meal with poultry by-products and/or the inclusion of an excess of hulls and weed

Clarence Roelle, microscopist with Wirthmore Feeds, at work in the company's laboratory.

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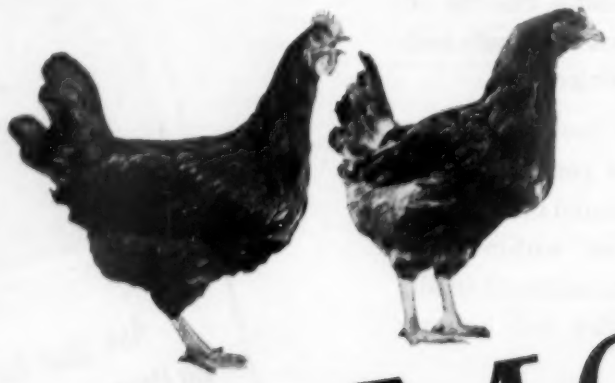

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The chemobiotic action of Dynafac-P* in the intestinal tract of poultry controls undesirable bacteria without impairing beneficial organisms.

Altering the intestinal flora in this manner produces a healthy digestive canal —improves feed efficiency and helps provide better health for rapid growth and high production.

There is no evidence that microorganisms develop resistance to Dynafac. This may be due to the insolubility of this new chemobiotic in the intestinal tract. This is important because of the proven drug resistance of some organisms.

Dynafac-P contains 20% tetra alkylammonium stearate carried in 80% soybean oil meal. It is not toxic—no danger of overdosage. The active ingredient is stable under extreme conditions of heat, cold and humidity.

It is recommended that Dynafac-P be added to poultry rations in the amount of 1 to 2 lbs. to the ton. Since relatively small amounts are needed for maximum results, Dynafac is one of the most inexpensive feed additives yet offered.

Dynafac is distributed nationally for Armour by the Chemical Department, McKesson & Robbins, Inc. For further information contact your nearest McKesson chemical warehouse. Armour and Company, Union Stock Yards, Chicago.

*Armour brand tetra alkylammonium stearate

seeds in grain products can be demonstrated by a skillful microscopist.

"New techniques are being studied for the microscopic identification of such feed constituents as vitamins, drugs and antibiotics. These methods can be of great help to the chemist in providing short cuts for his determinations, since the presence or absence of interfering substances may determine the amount of chemical preparation necessary.

"Other new applications are constantly being developed for the use of the microscope in feed technology. As the value of the microscope to the feed manufacturer increases, it means that his customers will benefit from consistently high quality."

It is with this in mind, said Mr. Roelle, that Wirthmore is presently expanding its microscopy facilities. Additional microscopes and microphotographic equipment are being installed for recording and comparing microscopic specimens at the laboratory.

David Pettus Named New AMS Director

WASHINGTON—David M. Pettus, deputy director of the U.S. Department of Agriculture Marketing Service since 1950, has been appointed director to succeed Harry E. Reed.

Mr. Reed retired in February.

O. V. Wells, administrator of AMS, announced the appointment, and at the same time announced the appointment of John C. Pierce, Jr., as deputy director. Mr. Pierce has been chief of the division's standardization branch since 1953.

As director of the division, Mr. Pettus will be responsible for administration of the department's market news, grading and standardization programs on livestock, meats and wool. He also is responsible for Sec. 32 programs applicable to livestock and livestock products.

Mr. Pettus began his career with the U.S. Department of Agriculture with a field appointment at Raleigh, N.C., in January, 1940. He came to Washington the following year and has served in responsible positions as an economist and livestock marketing specialist except for two years in the Navy during World War II. He is a native of Kentucky and a graduate in farm economics and marketing of the University of Kentucky at Lexington.

Mr. Pierce has been employed by the USDA since October, 1948, as a livestock marketing specialist. He is a graduate of North Carolina State College at Raleigh with a major in animal husbandry and was a member of the animal husbandry staff there from 1939-42 and 1946-48.

FEED PLANT CLOSES

TULARE, CAL. — The Monarch Feed & Supply Co. has closed its plant at 95 W. Inyo St., Tulare, and is now operating out of its Hanford office. Howard Barker is manager of the Hanford branch.

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DYNAFAC-P helps promote rapid broiler growth by controlling harmful bacteria and fungi *without impairing beneficial organisms*. Note also these other important DYNAFAC-P benefits:

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Swine Testing Field Days Being Held At Illinois Stations

URBANA, ILL.—Persons interested in seeing how board testing stations operate may attend any one of a series of Test Station Field Days being held this summer in Illinois. Four already have been held, and six more are scheduled.

W. F. Nickelson, livestock specialist at the University of Illinois, said 210 litters representing nine breeds, commercial and hybrid hogs are on test this year.

Local associations operate the test stations, and expenses are paid by local breeders interested in producing meat-type swine. The stations are sponsored jointly by the Illinois Swine Herd Improvement Assn. and the Illinois Feed Assn.

Each field day features a speaker and a weigh and probe demonstration, plus other features at some of the field days.

The schedule:

July 15—Ford County Station, Melvin, 6 p.m. CDT, 13 litters, speaker—LaVerne Johnson, Illinois director on National Swine Growers Council.

July 23—Iroquois County Station, Watseka, 7 p.m. CDT, 46 litters, speaker—Earl Lasley, University of Illinois.

July 26—Jasper County Station, St. Marie, 1 p.m. CST, 19 litters, speaker—Dick Carlisle, extension livestock specialist, University of Illinois.

July 27—Whiteside County Station, Sterling, 1 p.m. CDT, 50 litters, speaker—Dr. Merle Brinegar, assistant director of research, Allied Mills, Inc.

July 30—Logan County Station, San Jose, 6:30 p.m. CDT, 10 litters, speaker—Willis Nickelson.

Aug. 1—Henry County Station, Cambridge, Route 82 south of town, 10:30 a.m. CST, 13 litters, speaker—Willis Nickelson.

International Milling To Expand Offices

MINNEAPOLIS — International Milling Co. has announced it will expand its offices on the 12th floor of the Investors Bldg. to include space in the adjoining Roanoke Bldg.

In a lease just signed, the company agreed to rent the entire 12th floor of the Roanoke Bldg. until July 31, 1971. This conforms to the term of its present lease in the Investors Bldg. and gives the company an office one block long.

"Additional space is necessary," according to Charles Ritz, chairman of the board, "to keep pace with the expansion of company activities."

International will expand into its Roanoke addition on 7th and Marquette early in 1958. A portion of the wall between the two buildings will be removed to combine the offices.

The Investors site serves as general offices for the company which manufactures Robin Hood flour and operates 22 flour mills, four terminal elevators and two shipping docks in the U.S. and Canada.

It is also headquarters for the company's Supersweet feed division which operates eight formula feed plants in Minnesota, Iowa, Nebraska and Kansas.

International moved to the Investors Bldg. last August from the McKnight Bldg.

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TESTS show that pure, soft EGGSHELL BRAND Oyster Shells turn into egg shells in as little as 6 hours after consumption. Substitutes just aren't as palatable. Insist on the shells softened by centuries of aging at the bottom of Mobile Bay—EGGSHELL BRAND Oyster Shells.

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Armour Reports on Use of "Dynafac-P" In Feed for Chicks

CHICAGO — Research indicating that chicks show greater feed efficiency and gain as much as 12% faster when "Dynafac-P" is added to the ration was reported recently by Armour & Co., manufacturer of the new product.

In a University of Illinois experiment, the company said, 20 chicks getting Dynafac used 1.99 lb. of feed per pound of gain, compared with 2.17 for the control birds. Contamination was added to simulate farm conditions. Iowa State College studies were said to indicate that, even under conditions where the disease level is low, the product has been able to bring a 6% improvement in feed efficiency.

"Chicks in several trials conducted by Armour's research division have shown an increase of 5 to 12% in growth rate when receiving Dynafac-P," the report said. "They gained 3 lb. during an eight-week trial, while chicks on a ration without the additive gained 2.7 lb."

Dynafac-P contains 20% tetraalkylammonium stearate and 80% soybean meal. The safe active ingredient with a steamed bone meal carrier already is being sold under the brand name Dynafac for use in rations of beef cattle, beef and dairy calves, swine and lambs. Distribution of both products is being handled by McKesson & Robbins, Inc.

"The activity of the tetraalkylammonium stearate appears to be confined largely to the intestinal tract, where it alters the bacterial flora," Armour said. "It is believed that small amounts of a nascent quarternary ammonium radical, known to be highly germicidal, are liberated through the digestive system. This activity favors increased growth and more efficient feed conversion. Even under so-called new environment conditions, where no growth stimulation is normally achieved, improved feed efficiency is demonstrable.

"The active ingredient, even at concentrations considerably in excess of recommended levels, is non-toxic. It is stable under extremes of heat, cold and humidity. The recommended rate for Dynafac-P is 1 lb. per ton of feed."

The report went on to say that in a commercial flock on the West Coast, a nonspecific enteritis was cleared up when Dynafac-P was added to the ration, indicating an added value for big-scale production in large houses. On the East Coast, it was said, death losses from respiratory disease were "greatly reduced" in a Delmarva broiler operation.

Oregon Broiler Men Plan Festival July 20

PORTLAND, ORE.—An Oregon Broiler Festival will be staged by the Oregon Broiler Growers Assn., according to an announcement by B. J. Rogers, secretary. It will be held at Willamalane Park near Springfield, Ore., July 20.

Cooperating with the broiler growers is the Springfield Junior Chamber of Commerce. Springfield and adjacent Eugene will be decorated and a large amount of promotion work is being done with the service clubs of both cities.

Many attractions are scheduled, including the crowning of "Miss Slick Chick of 1957." Bob Steward, new Oregon director of agriculture will be speaker of the day. There will also be a log rolling contest, exhibition soft ball game, barber shop quartette contest, square dancing and many other activities.

Thirty stainless steel grills have been purchased, enough to barbecue 1,000 servings at a time. The broiler growers are anticipating an attendance of around 5,000 people. Money raised from the festival will be used to promote the consumption of Oregon grown fryers.

"Your Honor, have you tried explaining jury duty to a dairy herd?"

IOWA ELEVATOR BURNS

AURELIA, IOWA — Fire burned out the interior of the Frazer elevator here and destroyed about 30,000 bu. of government sealed corn stored in the structure. The building was owned by Norman and Eldon Fredrickson, Meriden, and leased to the Farmers Cooperative Elevator Co., Cleghorn. No estimate of damages was available.

"...says he can't keep a thing on his stomach!"

In a hundred experimental laboratories, the lid is being lifted off the secrets of the rumen every day. The steer or cow with a neat, covered hole in its rumen is a standard part of modern research in the nutrition of ruminant animals. The contents of the rumen can be observed, removed and analyzed with no harm or discomfort to the animal.

It is no longer true that the darkest spot in the world is the inside of a cow's stomach. Much that goes on there has been discovered, much remains to be worked out to solve such problems as bloat.

As rumen research goes on, the reasons why PROCADIAN* Urea provides an excellent source of protein are becoming more thoroughly understood. Much basic research on rumen nutrition is being underwritten by Nitrogen Division, makers of PROCADIAN Urea. For free copies of the latest information on feeding Urea to ruminants, write to Dr. D. F. Green, Nitrogen Division, Allied Chemical, 40 Rector St., New York 6, N. Y. Just send a postcard with your name, title, business address and the words "Feed Urea".

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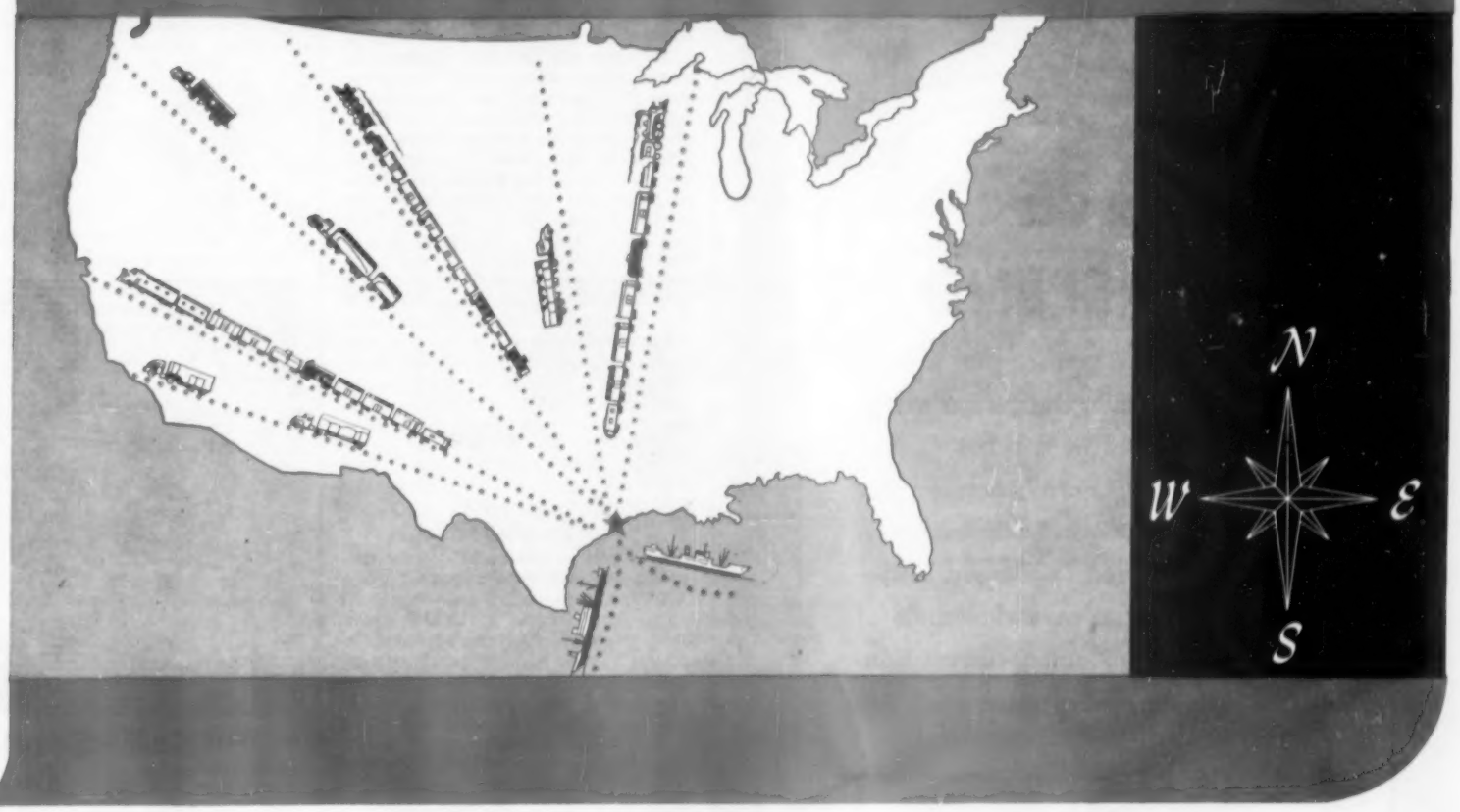

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European Experts Discuss Feed Additives in Relation to Human Health

By R. M. Ricard
Secretary-General
Bureau of Animal Nutrition
Marseille, France

The tremendous progress that agricultural production has made over the past few years through research and through the application of scientific discoveries to crops and domestic animals has given rise to many varied problems in relation to human health.

While on the one hand an ever increasing number of pests and parasites has led to a wider use of toxic pesticides on crops, on the other hand, the urgent and constantly increasing demand for meat, eggs, milk, etc. has necessitated the use of growth-promoting substances in animal feed such as hormones, antibiotics, etc.

These new techniques have, there is no doubt, raised agricultural production; i.e., the quantity of food available to man has increased. They have, however, at the same time brought to the fore the problem as to whether man's health is in any way endangered by the use of chemicals in relation to protecting crops, raising livestock or preserving stored food.

This was the problem discussed in Como, Italy, May 14-18 by more than 250 experts from 19 different countries. The symposium, the third of its kind to be held in Europe, was held under the direction of Prof. G. Bertrand from the Pasteur Institute in Paris and Prof. Antoniani Dean of the College of Agriculture, University of Milan. Also present was Dr. Van Veen, delegate of the Food and Agriculture Organization, of the World Health Organization, of various European committees on agricultural chemistry, pesticides and food technology. The European Association for Animal Production was represented by its president, Prof. Leroy from Paris. There were delegations from all the Western European countries, from the U.S. (on pesticides only) and even from Poland and Czechoslovakia.

A Step Towards Unification

To an American observer, the discussions would have appeared quite different from similar meetings held on the same subject in the U.S. Apart from the difficulties arising from the presence of so many nationalities, making the immediate translation of the reports into four languages necessary, European experts are faced with a very peculiar situation resulting from the fact that every country in Europe has its own regulations on feed additives. As a result, many discrepancies exist between neighboring countries, and international relations and business relations are thus handicapped. For instance, if a country has not authorized the use of a certain type of hormone in animal feed, not only would that hormone be forbidden on the market but also any animal product resulting from a hormone-fed animal would be unacceptable in that country.

The above example shows how necessary it is for experts from the various countries to meet so as to exchange ideas. They were, therefore, able to accomplish much useful work in Como, and a further step towards unification was achieved.

Some Outstanding Papers

Out of the many interesting papers presented to the Congress the following dealt directly with animal production:

Prof. Foa, Milan University, presented a general report on "The Utilization of Antibiotics and Growth Promotive Substances in Animal Feed." The most important fact to be drawn from this was that "the amount of substance still present in the edible portion is generally below the limits of toxicity, but, if it is right to censure and forbid adulteration of food, it would be unwise to ban growth promoting agents and to denounce hence a danger existing only in theory."

According to Prof. d'Ambrosio, Milan University, who spoke on "Toxicological Problems Arising from

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Now also available a Roadside Egg Vending Machine designed by Dr. Darrah of Cornell University, in conjunction with Rowe Manufacturing Co., Inc. It's fully automatic and vends 100 dozen eggs. Sold on low monthly payments.

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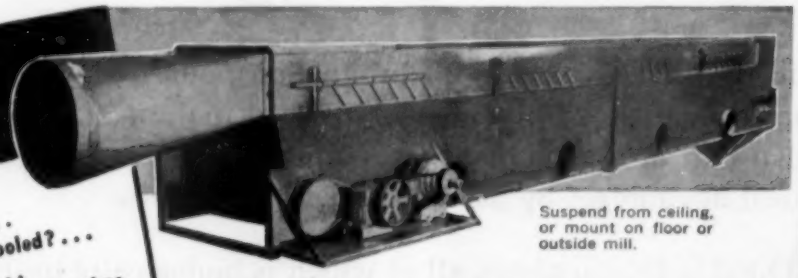

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Wenger Horizontal Pellet Coolers carry the pellets through a bath of exhaust air on an endless wire mesh belt that handles pellets from 3/16" to range cube size. Variable speed drive on conveyor provides necessary speed variation for best cooling and moisture control of different size pellets. With no vertical movement of pellets and no baffle plates in cooler, ratio of fines is greatly reduced. Cooler can be suspended from ceiling or mounted on floor. Also available in two-stage superimposed coolers, delivering pellets immediately under intake of upper cooler. Built in 14, 18, 24 and 30 ft. lengths . . . capacities of 3 tons to 30 tons per hour.

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the Use of Additives to Increase Food Production," "there is a positive aspect to the utilization of additives; i.e., the increase in production of food. This result represents the great struggle of science and technology to save mankind from bad nutrition and hunger. There is, however, a negative aspect when estrogens and antibiotics are used indiscriminately in animal feed. Hence the suggestion that a positive list of authorized feed additives should be drawn up by European experts. This will be achieved when the Codex Alimentarius Europeensis, on which experts are at present working, is adopted. This code of law will offer to the European consumer a concrete protection against misuse of feed additives."

Dr. Ubbels, Beekbergen (Netherlands) and Prof. Scevola (Milan) read very interesting technical papers on hormonal relationships and the use of antibiotics in feed.

All these papers and many others encouraged a general exchange of ideas which led the French committee to propose the following motion, which concerns the feed industry directly:

"I. The symposium, considering that modern animal raising techniques sometimes make it necessary to use substances which allow food production for human consumption to increase, moves that the four following conditions be jointly applied for use of these substances in animal feeding:

—in the first and foremost place: harmlessness of the food produced from animals treated with these substances;

—established zootechnical efficiency;

—absence of adverse effect on technological, hygienic and nutritional quality of products.

—possibility of checking.

"II. (deals with the use of fertilizers)

"III. The symposium, considering the emotion caused in certain countries by denigrating campaigns conducted against modern techniques of agricultural and food products, proposes that their works should be given the widest publicity in the various countries and invites the responsible organizations to do all that is possible to give the public exact information about the scientific findings.

"IV. The symposium, taking account of the proposal made in Goettingen (Germany) in 1955 by experts of the FAO and the FEZ concerning animal feeds, stresses the urgent need for an international standardization of the methods for analysis and of the legislation, already undertaken in the above mentioned field in co-operation with BIPCA."

The motion has already been signed by 10 outstanding French scientists.

Future Prospects

From this brief summary, it can be seen that, as in the U.S., European experts, feed manufacturers and consumers take a great interest in modern techniques dealing with animal production. We hope the problem will be solved quickly by the setting up of an efficient international legislative code. Finally we here in Europe could draw exactly the same conclusions as those reached during the medicated feed conference in the U.S. which studied problems identical to those discussed in Como.

On this occasion Commissioner G. P. Larrick of Food and Drug Administration, said: "We and you (feed manufacturers) must primarily be concerned with the question of whether or not the treated meat has any discernible adverse effects on the human consumer. These are not matters to be taken lightly. On the contrary, these are matters demanding our best educational efforts and our best enforcement standards."

CORN ACREAGE INCREASED

DONALD, ORE. — Increased feed corn acreage throughout the Willamette Valley has been reported since installation some three years ago of grain drying facilities by the Donald Farmers Cooperative Assn. The dryer was put in as an emergency measure because of wet weather during oat and barley harvesting time. It is the only dryer in this section of the country.

They're spreading the good news!

2 Whitmoyer FEED MEDICANTS MEET GROWING NEED FOR SAFE, DEPENDABLE BLACKHEAD CONTROL

CARB-O-SEP, another new product of Whitmoyer research, holds great promise for the virtual elimination of blackhead as a serious economic threat to turkey growers. Mixed with mash at the recommended levels, CARB-O-SEP safely and economically prevents outbreaks without undesirable side reactions.

ENHANCES GROWTH — BIRDS CONTINUE EATING

In a continuous feeding program, CARB-O-SEP effectively prevents outbreaks *without* undesirable side reactions. Turkeys continue to make normal weight gains; — no adverse effect on feed consumption, growth, feathering, appearance or finish. Write for details.

HISTOCARB was developed specifically to meet today's urgent need for a fast-acting, *safe* and economical feed medicant for this costly disease. Although a highly potent drug, thorough testing has proved that HISTOCARB — when used at recommended levels — does not cause undesirable side or after effects.

HISTOCARB does not delay or upset future egg production in pullets and does not depress egg production when given to laying flocks. Feed consumption continues at normal levels. HISTOCARB mixes thoroughly with the mash and is completely compatible with coccidiostats, arsenicals and other additives normally used in feed.

Hard-to-diagnose blackhead in chickens, which closely resembles intestinal coccidiosis or hemorrhagic disease, is becoming more and more of a problem. Be sure to write for our free illustrated pamphlet "How to recognize and control blackhead in chickens."

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Mechanical Value of Added Animal Fat in Pelleting a Poultry Ration

● By Harold P. Poe and W. H. Hastings
Kansas State College

EDITOR'S NOTE: The accompanying article is the text of a paper giving the results of a graduate student research project in the pilot feed mill at Kansas State College. The study was undertaken to provide data on the lubricant effect of added fat in pelleting. The research showed, among other things, how rations containing fat were pelleted at an increased rate and with less energy per ton than the basal ration. Harold P. Poe, one of the authors, formerly was a graduate student in feed technology at the college and now is with Supersweet Feeds, division of International Milling Co., New Ulm, Minn. Dr. W. H. Hastings is an associate professor in the department of flour and feed milling industries at Kansas State.

Abstract

A commercial pelleted laying ration was produced with increments of animal fat replacing corn. Test runs were studied for temperature, moisture, bulk density, power requirements and rate of production. Results obtained help explain physical changes that take place when soft feed is compressed to pelleted feed. The rations containing animal fat were pelleted at an increased rate and with less KWH per ton than the basal ration without fat added.

Use of animal fat in formula feeds when a high caloric content is desired has been supported by several workers (5). Fat is not an economical source of energy, on a nutritional basis, when the cost of adding high-protein ingredients is considerably more than that of grains it replaces. Fat may also be used for its mechanical value to reduce dustiness, to brighten the feed, and as a lubricant in pellet production. To document the lubricant effect, research described in this paper was undertaken.

McGregor (3) reported that the trend to high-energy rations, formulated with solvent process oil meals and with little or no millfeed, has materially cut pellet mill capacity. Norton (4) summarized interviews with pellet mill operators as follows: (a) Most common level of added fat was 3%; (b) power saving with fat-containing feeds was thought to be rather insignificant; (c) steam requirements when pelleting fat-enriched feeds were estimated to be somewhat lower; (d) pellet dies seem to last 25% longer when used to pellet fat-enriched feeds.

Fleming (2) reported that when fat was added to dehydrated alfalfa at the hammer mill, subsequent pellet production rate was increased and the useful life of pellet mill dies and rollers was extended.

EXPERIMENTAL — The formula (Table 1) for a 20% protein laying ration of an established brand of formula feeds, hereafter called "basal ration," was manufactured with increments of fat up to 3%. Each run consisted of pelleting one ton of the basal ration and one ton each of mixes containing 1%, 2% and 3% animal fat. Mixing and pelleting were carried out continuously for the several variations to minimize changes in atmospheric conditions which often influence pelleting operations. At the start of each test, ground yellow corn was run through the equipment from the mixer to the pellet sack-off spout scale to heat and clean the equipment. The order in which the mixes were run was selected at random. A scale hopper automatically cycled from storage bins required quantities of ingredients except the minerals and vitamins which were weighed out and added as a premix in the batch mixing system employed.

TABLE 1. Formula for 20% Laying Ration With Animal Fat Replacements for Ground Corn. (Note: In Commercial Operation Some Protein Adjustment Would Be Necessary When 3% Fat Replaced Corn)

Ingredients	Basal ration lb.	1% Fat lb.	2% Fat lb.	3% Fat lb.
Ground yellow corn	100.0	99.0	98.0	97.0
Ground milo	75.0	75.0	75.0	75.0
Ground oats	13.0	13.0	13.0	13.0
Wheat shorts	112.0	113.0	112.0	112.0
44% Soybean oil meal	100.0	100.0	100.0	100.0
Dehydrated alfalfa (17%)	50.0	50.0	50.0	50.0
Meat scraps	25.0	25.0	25.0	25.0
Bone meal	12.5	12.5	12.5	12.5
Limestone	6.25	6.25	6.25	6.25
Salt	5.0	5.0	5.0	5.0
Vitamin premix	2.5	2.5	2.5	2.5
Animal fat	0.0	5.0	10.0	15.0

A California Master Model pellet mill with 25 h.p. drive, a vertical cooler below and a steam supply of 70 psig produced the pelleted product. Samples for determination of moisture, temperature and bulk density were taken at the mixer discharge, from the pellet mill conditioner, after the pellets were discharged from the die, and at the sack-off spout. Samples for temperature measurement were taken in a Dewar flask, for moisture in covered tin weighing dishes, and for bulk density material was measured directly by official grain-testing equip-

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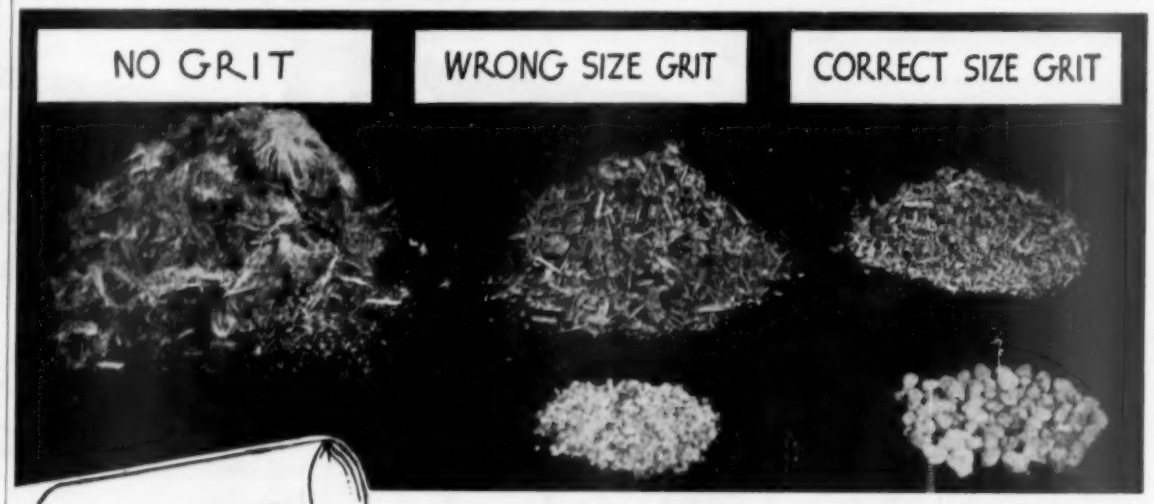
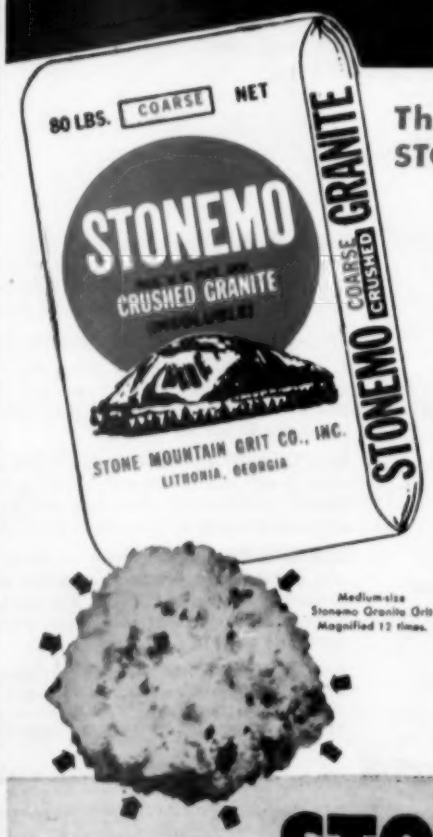




Medium-size Stonemo Granite Grit Magnified 12 times.

This Picture Shows How You Can Convert STONEMO'S Gizzard Power Into Sales Power

Look at this picture carefully. At the end of 22 weeks pullets fed an all-mash diet were killed and the gizzard contents washed and later dried.

Note the fiber, feather, litter content of the gizzard from a single bird (see section of picture marked "no grit".) Note how much less cloggy bulk there is even when fine size grit (the wrong size) is used (see section of picture marked "wrong size grit".)

Now look at the section of the picture marked "correct size grit." See how fine the granite grit grinds the feathers, litter, and fiber. This gives birds more room in their gizzards for processing feed for extra eggs.

The gizzard grinding power of Stonemo Granite Grit is one of your best salesmen for quality feed. Stonemo's rough, sharp, multiple surfaces grind open the tough cellulose "capsules" surrounding many feed nutrients—release the growth and body building ingredients inside for better digestion and assimilation.

The use of Stonemo Granite Grit develops big strong muscular gizzards capable of handling large feed intake and processing it efficiently. Stonemo helps keep gizzards free from clogging action of litter, fibrous grasses, and feathers—reducing mortality losses.

Stonemo is advertising gizzard grinding power nationally to cover the three big summer markets. You can make this grinding power sales power if you tie in locally.

STONEMO The Grit with the

TABLE 2. Temperature and Moisture Readings Obtained During a Typical Test Run*

Ration	—Mixer— Temp. °F	Moist. %	—Conditioner— Temp. °F	Moist. %	—Pellet die— Temp. °F	Moist. %	As sacked off Temp. °F	Moist. %
BR	82	10.12	171	13.18	203	13.61	101	10.87
BR 1% F	86	10.18	172	12.78	192	13.30	105	10.37
BR 2% F	88	9.95	171	12.99	186	13.20	101	10.64
BR 3% F	90	9.75	169	12.72	183	12.72	100	10.24

*The figures shown are an average as determined from four samples taken approximately five minutes apart during the test run.

ment and checked by a standard ½-bu. tared container.

A power measurement panel recording watts, amperes, volts, power factor, watt hours and demand was started after an initial period of pellet mill adjustment to optimum operating conditions. Soft feed was pelleted, conveyed through the cooler and sacked off during a "come-up" time to regulate the feeder and steam flow to a maximum as indicated by a current of 31 amperes as shown by a wall ammeter. At the moment data were recorded for the run, pellets were collected in the cooler, the power panel was turned on, and the operation timed with a stop watch.

DISCUSSION — Temperature and moisture data (Table 2) reflect the various activities taking place in the mixer, pellet conditioner, pellet die and cooler. The slight increase in temperature of the soft feed in the mixer when fat was added was from fat being at a temperature of 176°F. Soft feed in the conditioner went from a mixer temperature of near environmental to about 171°F. and did not change significantly in any of the test formulas. Moisture increased in the conditioner to about 3% more than that in the mixer. The uniformity in temperature and moisture increases in the conditioner indicate that the proportion of steam condensate remained nearly the same per unit weight of feed.

The temperature of pellets formed with the basal ration was about 30° higher than the soft feed going into the die from the conditioner. Pellets made from feed containing added fat did not increase so much in temperature during the pelleting process, the 3%-fat ration increasing only 12 degrees from that in the conditioner. It was concluded that this lowered temperature difference of newly formed pellets with fat in the formula indicates that less work is required for pelleting. Pellet hardness and the percentage of fines returned to the pellet mill from the crumblizing rolls were not measured consistently, but general observations indicated that pellet hardness was lowered and percentage of fines was increased with added fat. Subsequent pelleting is planned to include data on these factors.

The final temperature of all pellets, when packed off, was slightly higher than environmental temperature; the difference, however, showed that the cooler was adequate to handle, on an automatic basis, a production of 4,500 to 6,500 lb. per hour.

TABLE 3. Bulk Density of Soft Feed and Cooled Pellets*

Ration	Mash (soft feed), lb./cu. ft.	Pellets, lb./cu. ft.	Per cent increase
BR	30.66	40.56	32.2
BR 1% F	30.34	39.28	29.4
BR 2% F	30.15	38.00	26.0
BR 3% F	30.27	37.92	25.3

*The bulk densities shown in this table represent average values for five independent samples.

TABLE 4. Pressure Necessary for Pellet Extrusion

Ration	Pressure* lb./sq. in.
BR	6820
BR 1% F	6570
BR 2% F	5600
BR 3% F	5125

*Pressure calculated by Grahek formula.

Bulk density of soft feed did not differ significantly with added fat, but dropped slightly in the pelleted form (Table 3). It is indicated that the lowered bulk density of pellets made from feeds with added fat is due to a lowered compression required for their formation and is not due to a lowered true density of dry ingredients as could be calculated from the formula.

Using Grahek's formula (1) to calculate pressure necessary for pellet formation, it was found that 6,820 lb. per square inch were used in pelleting the basal ration and approximately 25% less when 3% fat was used (Table 4), explaining the decreased bulk density in BR plus fat rations pelleted.

Grahek's formula is

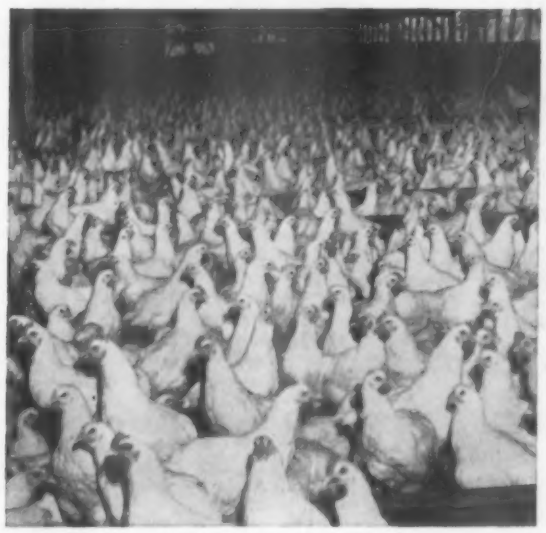
$$R = \frac{HP \times 10^4 \times B \times D}{436 \quad P}$$

where R is the rate of pellet production in pounds per minute, HP is horse power applied, B is bulk density of the soft feed in pounds per cubic foot, D is the numerical ratio of true density of pelleted feed to bulk density of soft feed and P is the pressure in pounds per square inch.

Table 5 shows: (a) Average pounds of pellets produced per hour, (b) actual energy as measured by counting watt hours from meter disk revolutions, (c) calculated pounds production per KWH, (d) calculated KWH per ton and (e) a calculated value for production by use of the formula for power, $P = I\ V\ Pf\sqrt{3}$, where I is amperes, V volts, Pf power factor and for three phase current $\sqrt{3}$ is used.

It is evident in these tests that fat added to a basal ration increased pellet production. The percentage increase was lineal through the levels tested, 25% more production being attained with 3% fat. Production expressed in pounds per kilowatt increased with added fat, and energy requirements decreased per ton of pellets with added fat. This study did not test feeds with more than 3% added fat, as the limit of delivery of the volumetric feeder on the pellet mill was reached at 3% fat and the

3 big summer markets



Summer is the time you have three big poultry markets to sell – egg producers, broiler growers, turkeymen. For your customers it is body building time. It is their biggest poultry population time, and for many of your customers it is range time.

This is the time when birds need Stonemo more than ever. They need it to grind mash finer as well as coarse grains and grasses so that there is greater feed efficiency.

Summer is the time your customers' flocks need muscular gizzards, healthy digestive systems – birds capable of large feed capacity for faster growth, better development.

It's the time when your quality feeds should work harder, produce more eggs or meat. Stonemo, the granite grit with the extra grinding surfaces, helps lower feed conversion ratios, reduces cost per dozen eggs or pound of meat.

Your customers can increase feed efficiency when Stonemo is fed.

To get best results, be sure your customers have one hopper containing Stonemo to every watering station.

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TABLE 5. Rate of Production and Electrical Energy Consumed

Ration	Production: Actual lb./hr.	Production: Calculated* lb./hr.	Actual lb./KWH	Energy: KWH	Energy: KWH/ton
Basal	4580	5300	253	18.1	7.9
With 1% fat	5620	5920	282	19.9	7.1
With 2% fat	6000	6550	314	19.1	6.4
With 3% fat	6500	7110	339	19.2	5.9

*Production as calculated from power formula when motor is drawing rated capacity of 31 amperes with a kilowatt hour consumption of 21.

pellet mill was taking all the soft feed conveyed to it with the feeder ratchet at its maximum setting of 60.

CONCLUSIONS — When inedible animal fat was added to a 20% poultry ration, the only change in the formula being replacement of corn by fat, the following data were collected:

1. Temperature increase in the conditioner, due to steam condensate, was about 100°F. over that of the soft feed in the mixer.

2. Temperature increase in formed pellets was 14° to 30° over that of the soft feed in the conditioner, that in pellets with added fat being lower.

3. Moisture increase in soft feed due to steam condensate in the conditioner was about 3% and did not change with formula change.

4. Bulk density of pelleted feeds increased from 25% to 32% over that of the soft feed, with feeds containing animal fat lower than those of the basal ration.

5. The ration containing 3% fat was pelleted on a KWH per ton basis with 25% less energy than without fat.

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(3) McGregor, R. W.—Use of animal fats in feeds; Feedstuffs, 1956, 28 (39): 28.

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APHF GROUP TO SET 24 'EGGSAMPLES'

KANSAS CITY—The "one for the road" at the convention of the American Poultry & Hatchery Federation here will be eggs.

Convention planners have arranged an "eye-opener" breakfast July 19 as a finale to the big four-day meeting. Eggs for the breakfast will be fried, poached, scrambled, in omelets, shirred, boiled and in eggs Benedictine or applesauce pancakes. They'll be prepared in two dozen different ways by 75 chefs supervised by Poultry & Egg National Board home economists.

Chris C. Hansen

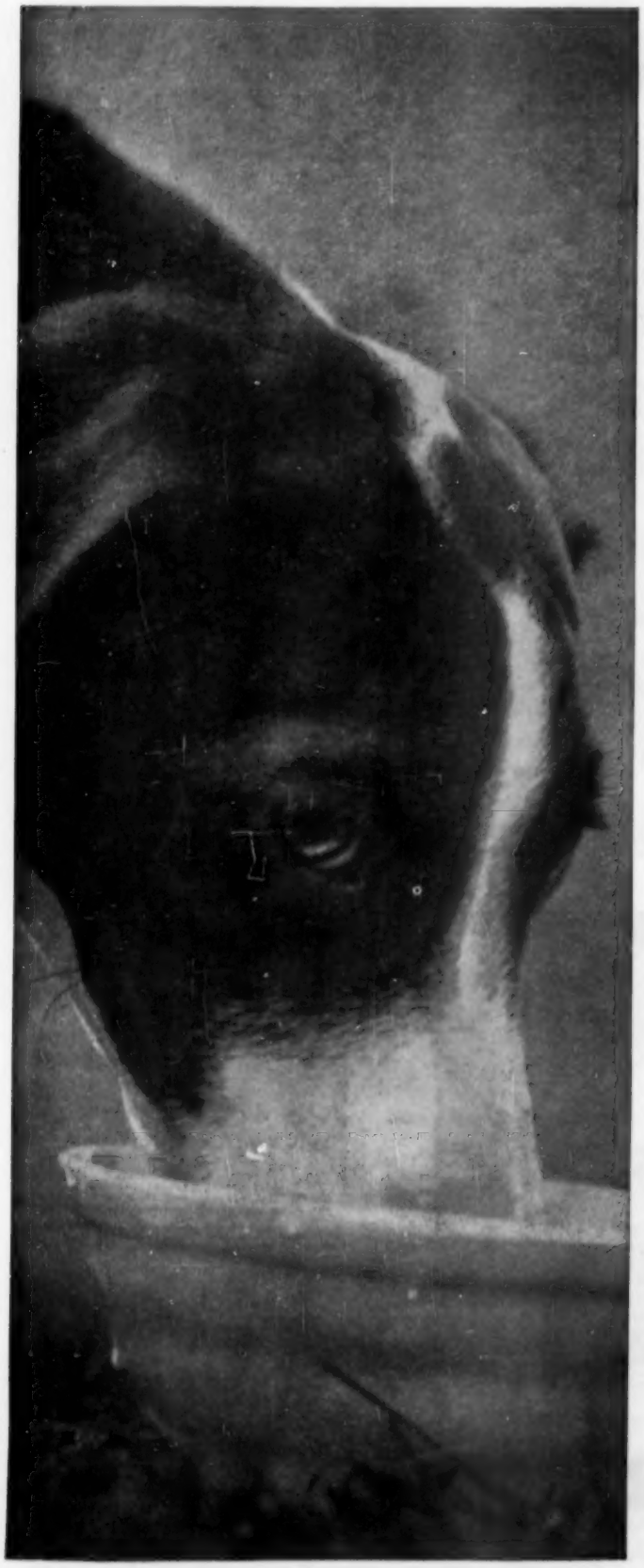
PERSONNEL DIRECTOR—Chris C. Hansen, Newton, Iowa, has been named director of personnel for the Walnut Grove Products Co., Inc., Atlantic and West Liberty, Iowa. He came to the firm from the Maytag Co., Newton, where he had served as manager of wage and salary administration and director of salaried personnel. Before joining Maytag, he taught a year in high school and one year at the University of Iowa. He has a master's degree from the University of Iowa.

Extension Poultryman Named at Missouri U

COLUMBIA, MO. — Glenn Geiger, Columbia, has been named poultry specialist on the Missouri Agricultural Extension Service staff, according to J. W. Burch, extension director.

Mr. Geiger is a 1950 graduate of the University of Missouri with a degree in agriculture. He was a research assistant in the Missouri poultry department from 1950-52, and he became assistant hatchery manager for Swift & Co. from 1952-54. In 1954 he became poultry inspector for the Missouri Poultry Improvement Assn. with headquarters in Columbia.

He replaces Leonard Voss, former poultry specialist, who recently joined the University of Missouri teaching faculty as an instructor in agricultural economics, specializing in the poultry products marketing field.



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Will you please help us settle a question??

Our advertising department is divided into two camps and we are frankly at a loss to tell which side is right. The Art Director, a lad dedicated to the theory of Confucius, claims that "Art is all" and that "one picture is worth a thousand words." The Advertising Manager (not one to casually question the much quoted Confucius) agreed to try a few ads with much "see" and little "say." You probably have noticed these Ray Ewing ads in the trade papers the past few months... But now – the Copy Chief, with pen in hand and a bulging book of adjectives under his arm is challenging the artist. Armed with some choice quotes like "Remember the Alamo"... "Fourscore and seven years ago"... "Thou shalt love thy neighbor as thyself"... he scored pretty heavily in favor of the written word. Then sensing an advantage, he pressed further by chiding the A.D. with questions like, "Just how can you impress your audience with a picture which would show The Ray Ewing Company as the Pioneer in the concentrated dry vitamin premix field?... How are you going to picture the performance of Ray Ewing Antiox as the preferred BHT Preservative Product in the feed industry?... How are you going to sketch Ray Ewing Vitamin A's long lasting stability?... How will you picture peace-of-mind that Ray Ewing customers enjoy from the knowledge that only the finest, top-quality ingredients are ever used in their pre-mixes?

Well folks – that's our problem. About the only way we can settle these temperamental talents is to let the readers and viewers of this magazine decide. If your decision to inquire about, or order an advertised Ray Ewing Product is most influenced by an artistic ad, please write the word "SEE" on a post card and send it in to us. If the written description of the product appeals more to you, write the word "SAY" on the card. Send it to The Ray Ewing Company, 1097 South Marengo Ave., Pasadena, California. To thank you for your time and opinion, The Advertising Manager will send you a Free copy of Ray Ewing's Handy Conversion Tables. Thanks in advance and please write that card today.

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Grain Temperature Equipment Installed

DES MOINES — Increased use of temperature measuring equipment to detect possible deterioration of grain in storage is evident in a recent report from Hot Spot Detector, Inc., Des Moines.

For example, it was noted, Central Soya Co., Inc., has completed installation of four new remote control automatic scanning temperature measuring systems manufactured by Hot Spot Detector. These systems allow office control of 173 temperature cables using more than 2,800 temperature sensing points. The systems —installed in plants at Chattanooga, Tenn.; Decatur, Ind.; Marion, Ohio, and Gibson City, Ill.—brought to more than 1,900 the total number of Hot Spot installations in the U.S. and foreign countries.

Also reported was installation of two new electronic temperature measuring systems by the Chicago Regional Port District. They were installed in the new houses of Rice Grain Corp. and Illinois Grain Corp. More than 500 flexible nylon-covered steel temperature cables were used in the grain bins and then connected to a control instrument in the office of each plant.

Another installation was in the 1,780,000-bu. elevator of the Amherst (Colo.) Cooperative Elevator.

Richard M. Lawrence

RESEARCH ANALYST—A. E. Staley Manufacturing Co., Decatur, Ill., corn and soybean processing firm, has named Richard M. Lawrence research project analyst. Dr. Thomas L. Gresham, vice president of research and development, described the post as an important new responsibility in the currently expanding research of the firm. Mr. Lawrence was formerly director of business research for the Wyandotte Chemicals Co., Dearborn, Mich. He is a graduate of the University of California, and he has an M.S. degree from the University of Illinois.

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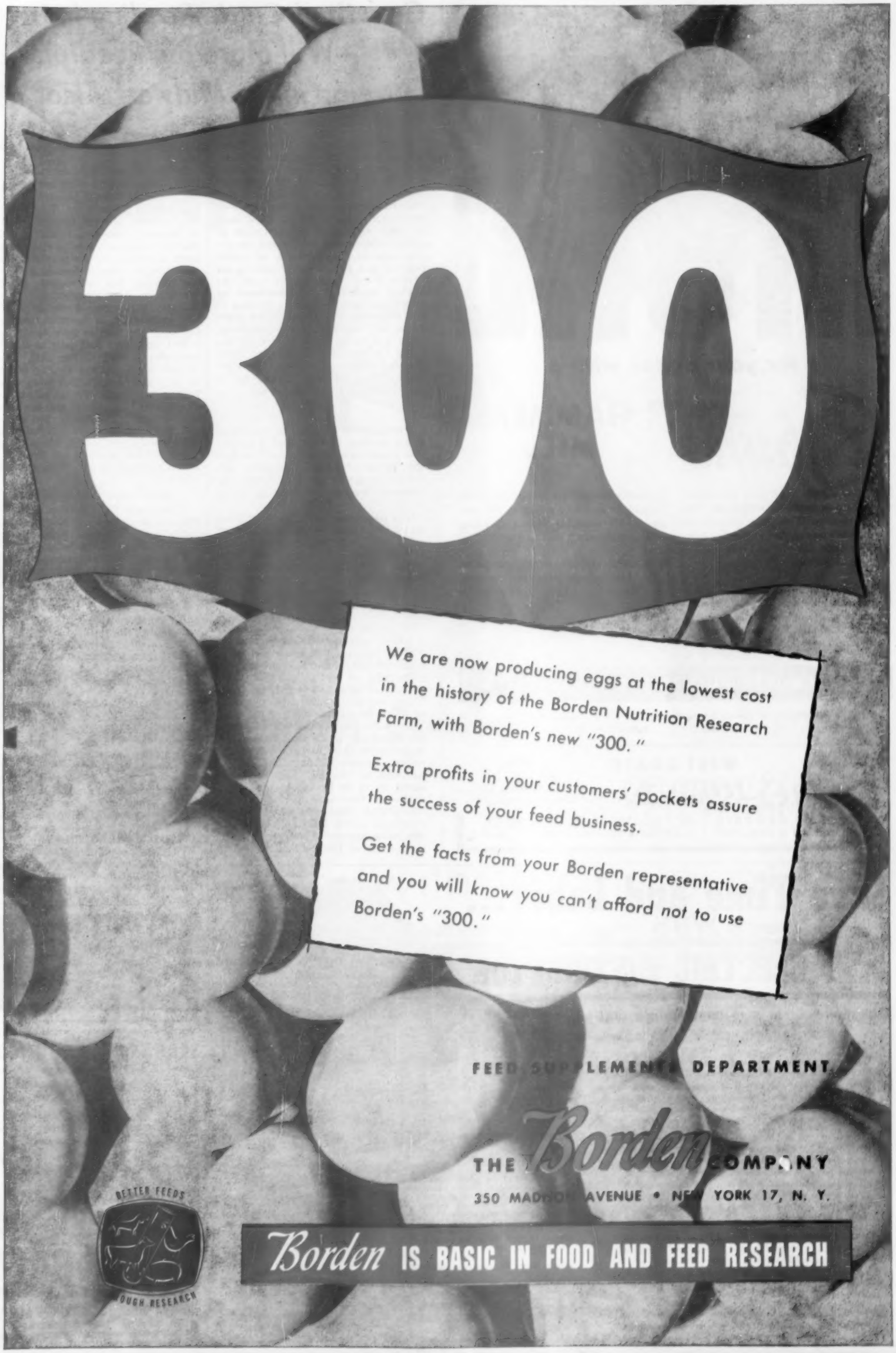
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We are now producing eggs at the lowest cost in the history of the Borden Nutrition Research Farm, with Borden's new "300."
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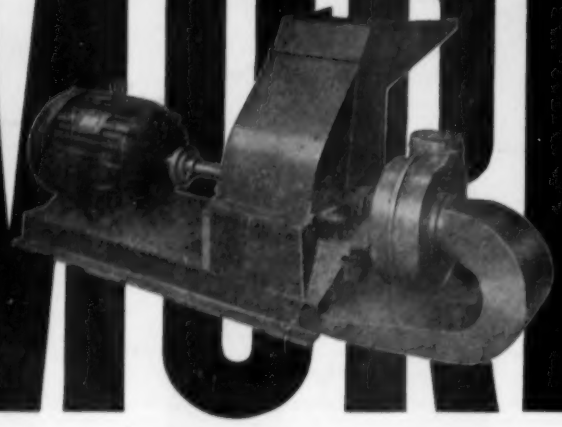

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Growth of Cattle Feeding in the West—Will More Big Feedlots Develop in the Midwest Also?

● By W. D. Farr

EDITOR'S NOTE: Cattle feeding has grown tremendously in western states, where many large-scale, specialized operations are now carried on. There are predictions also that more large cattle feedlots will develop in the Midwest. Feed men in other areas will be interested in the accompanying article and its description of the growth of cattle feeding and the types of operations in the West. At the same time, the author discusses the likelihood of continued extensive cattle feeding in the Midwest, he comments on prospects for larger feedlot operations. This article is from a talk at the Iowa Cattle Feeders Day at Iowa State College. Mr. Farr, of Farr Farms Co., Greeley, Colo., has a large cattle feeding operation.

I will briefly outline the growth of cattle feeding in the West. I believe you would also be interested in how the cattle are fed, what they are fed and how they are sold in order to compare western feeding to other areas.

The sugar beet industry was introduced into the irrigated west between 1905 and 1920. World War I gave this new sugar industry a big boost about 1920. The by-products of the sugar industry, namely wet beet pulp and beet tops, were the reason cattle feeding started in the western states.

This type of feeding was usually a winter operation. The feeder would buy a two or three-year-old steer and feed him for five to eight months, principally on wet pulp, alfalfa hay, cottonseed meal and very little grain. These cattle were largely marketed at all of the Miissouri river markets. They were cattle that were suitable for certain trade at that time. They would grade good and commercial by today's standards. The trade referred to them as "Collies" and they sold about 2¢ to 3¢ lb. below good Iowa cattle of the same period. During this period, California and the other mountain states fed a few cattle in the same manner. However, a great proportion of the beef consumed in California prior to 1930 was grass beef.

In the period between 1920 and 1930, cattle feeders were pretty well eliminated because of the severe market breaks. Then after the liquidation, caused largely by the drouth of the early thirties, cattle feeding started to become more profitable and more scientific. In the past 25 years the changes in cattle feeding all over the country, but particularly in the West, have been amazing.

Today sugar beet by-products are still important in western feeding, but they are used in an entirely different way. Wet beet pulp is rapidly becoming a feed of the past. Most pulp is dried and fed as pulp pellets or as mixed feed. In this form, dried beet pulp becomes a grain substitute. Other crop by-products also are used, particularly in California. For example, cull raisins, prunes, almond hulls, cottonseed hulls, low grade potatoes —all of these products are used as a roughage base for cattle feeding operations.

Reasons for Faster Growth

I am sure the question many of you would like to ask is: "Why has cattle feeding grown faster in the West than in the Midwest?"

I believe the number one reason for the large growth in western feeding is the tremendous shift in population to the western states. Do you realize that the U.S. is making a net gain in population of about 8,000 persons per day? About 2,000 or one fourth of this daily population gain is occurring in California and Arizona.

Do you know that California has slaughtered more cattle than any other state since 1951? In 1956 California slaughtered 2,586,000 cattle, followed by Illinois, which slaughtered 465,000 less. This is hard to believe when you think of the great slaughtering facilities at Chicago and St. Louis. Iowa was the third ranking state. Next is Nebraska, then Texas and my own state, Colorado. Cattle slaughter in the 11 western states has increased 71.4% since 1951. Calf slaughter in the same area since 1951 has increased 104.9%.

The large slaughter figures which I have just quoted are borne out by the cattle fed in the western states. Iowa, of course, leads the nation in

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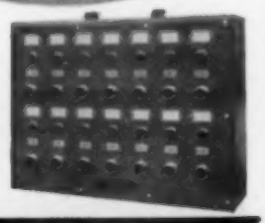

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number of cattle fed. Iowa markets approximately 2 million fed cattle each year. California is a close second with 1½ million fed cattle each year. Nebraska feeds about 1,200,000; then Illinois with 1,100,000; then several western states in order.

Most of this western slaughter is consumed in the 11 western states. The exception is Colorado. We feed and produce surplus beef which is shipped to almost every city in the nation.

Cattle on Feed

On Jan. 1, 1957, there were in round figures 6 million cattle on feed. Some 26.4% of them were in western feedlots; 49.5% were in the Midwest; and 24.1% in the eastern Corn Belt. This is a total of 73.6% in the Corn Belt. Based on the 1956 turnover of cattle in feedlots, the year's total feeding will be 31% in the West and 69% in the Corn Belt. The annual marketings in California are about three times Jan. 1 inventory. Colorado markets twice its inventory, while the Corn Belt markets about 175% of the Jan. 1 inventory.

While I am quotiing some figures, perhaps you would be interested in these. In 1956 we slaughtered 27.7 million cattle plus 13 million calves; 10.6 million of these were fed cattle. This amounts to 38% of the total number, but because fed cattle are heavier than average, it is estimated that last year 45% of all the beef consumed was fed beef. This should be definite proof that cattle feeding is a dynamic growing business and will remain as a big important enterprise.

Other Reasons

There are many other reasons for the growth of cattle feeding in the West. I will mention a few:

1. Increased freight rates on live cattle, dressed meat and feed made it necessary to slaughter live animals as close to the point of origin as possible.

2. Growth of the large chain stores, which buy beef by the carload. This has stimulated the growth of the small packing plant which slaughters nothing but cattle.

3. The refrigerated long haul truck which can deliver dressed beef from Denver to New York with a guaranteed third morning arrival.

4. The spread and acceptance of federal beef grading.

5. Price supports have tremendously increased the production of corn, barley and sorghum grains in the western states.

6. A better, drier climate with more sunshine, which produces a reasonably stable feed supply each year because of irrigated farming.

7. A quick general acceptance by western feeders of modern methods. This is especially true because the feeders are all relatively new in the business and are looking for good new ideas.

These and many others are some of the reasons that western cattle feeding has grown. Actually many of the reasons given for the growth of the cattle feeding industry are true of the entire western economy. The 11 western states are enjoying a tremendous growth and will probably continue to grow faster than most other areas.

Large Feedlots

I have given you general facts about cattle feeding in the West compared to the Corn Belt. There are both small and large feeders in the West. In Colorado, many more cattle are fed by the small feeders than the large ones. This is also true in all the western states except California, Arizona and Texas. In these three states, the cattle are almost all fed in large feedlots. A small farmer-feeder usually feeds about 100 head, and he only feeds one bunch of cattle during the winter months. A large farmer-feeder will feed up to 1,500 head per year. His feeding would be a continuous year-round operation. There is still another group of feeders who feed their own cattle that are simply known as large feeders. They make a business of feeding cattle. Our own operation falls in this category. We actually run a beef factory. We buy most of our feed and all of our feeder cattle. We have a sizable investment in a feedlot site, a grain elevator, grinders, mechanical feed trucks and many kinds of specialized equipment. Our feedlot employees do nothing but feed cattle. Consequently, they become very proficient at their jobs. Each week this beef feeding factory produces about 125,000 lb. of U.S. Choice beef. These large feedlots vary in size from a yearly capacity of 2,000 head up to 100,000 head.

Commercial Lots

In California, Arizona, Texas, Kansas and Colorado, there are many large feedlots known as commercial lots. These lots are operated on an American hotel plan; the room and meals are furnished. These feedlots have three different customers, who own the cattle: they are ranchers, packers and speculators. Sometimes

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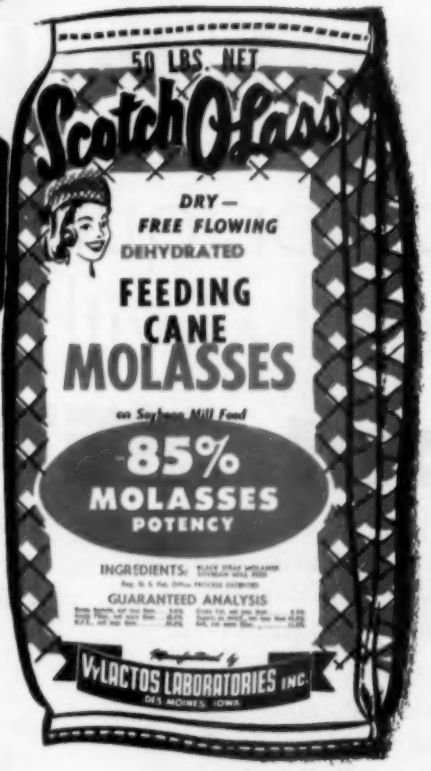

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the feedlot owners feed some cattle of their own, but many do not. The feed is carefully weighed and charged to each pen, each day at the cost plus a handling charge. To this is added a charge per head per day for yard use, labor, overhead, veterinary service, salt, mineral, etc. These are usually large feedlots holding a minimum of 3,000 up to 40,000 or 50,000 head of cattle at one time.

Many of these custom operators furnish a complete service of buying the cattle, fattening them, sorting for market, selling the cattle at the feedlot and remitting the proceeds to the owner. A large portion of the cattle fed in such lots are sold at the feedlot direct to packers. They seldom ship cattle to a central market. Usually they will sell a pen of cattle to be delivered during the next week or ten days' time at the packers' option.

These lots buy everything they use, and they must operate at a profit for the owner. This would appear to make them very high cost operators. However, their ability to buy in large quantities, their relative small investment per head of cattle fed, their efficiency in the handling of the feed products with a minimum amount of labor, plus their ability to sell cattle to advantage to the packers because of the large numbers are all assets and help keep these lots competitive.

Based on Volume and Averages

These large operations are based on volume and on averages. They sell cattle almost every week and day of the year and buy cattle the same way. For example, I will again use our own feedlot. Commencing last July we bought cattle in eastern Colorado, western Kansas and in Nebraska. In August we bought more cattle in the same areas plus Montana. In September, October and November feeder cattle are available in every state. In December and January our supply is either mountain cattle that have been held back to use up some feed, or they are early wheat pasture cattle. Wheat pasture and sorghum pasture cattle are usually available in Texas, Kansas and Oklahoma during January, February, March and early April. Then in May and June feeder cattle come largely from central and south Texas.

California has a different supply situation from the other areas. They have a large supply of feeders available in the intermountain area during the late summer and fall in addition to their own California supply. Then again in the spring and early summer, California has a very large supply of fleshy feeders in their own state.

The larger feeders usually buy their cattle through order buyers scattered in the various areas. Most of them are bought on the telephone. The feeder depends on the judgment of the country trader, and he sees very few of his cattle until they are unloaded at his feedlot. The smaller feeders buy some cattle this way, but usually they buy their feeder cattle at the central market or the country auction market. Practically all the cattle that are purchased in the western states for feeding are bought with the idea that at least 80 to 90% of them will grade U.S. Choice when fat.

Corn Belt Moving West

The Corn Belt is rapidly moving West. In Colorado corn is becoming one of our major irrigated crops. In California, they increased corn acreage 65% between 1954 and 1955. In the West, a large acreage of corn is planted to produce corn silage. The large feeders contract with the farmers to grow silage for them. The feeder furnishes the seed and the machinery to harvest the crop. The farmer plants the crop, cultivates it, irrigates it and sells it standing in the field for $5.75 ton this year. The average yield on these silage contracts is over 20 tons per acre every year.

Corn for grain is being raised in larger quantities each year. In county contests in Colorado we have many yields of 150 to 175 bu. of No. 2 corn per acre. The large hybrid seed corn companies all have good distributors. We have fine corn picking machinery of all kinds including large drying machines.

Grain Ration

In Colorado corn is only part of our grain ration. Most feeders use a mixture of corn, barley and milo. The mixture is changed from time to time to take full advantage of price changes in the various grains. In California and Arizona most of the grain used is barley because they raise large amounts of this grain. Being a warm area, they can produce two crops each year on the same field. Barley is an ideal crop for this second or minor crop. However, both states are raising more corn and more milo each year, and these grains are slowly becoming a more important part of their cattle fattening rations. In Kansas, Oklahoma and Texas, milo is the important grain. There are many large feedlots in these states that feed no other grain.

The sorghum grains have been greatly improved in recent years. Oklahoma A&M College has some new hybrid varieties that they claim have more feeding value than corn. Because of the wheat allotments in these southwestern states they are turning to other crops. The sorghum

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Dana Hill Alex Akerman, Jr.

CONVENTION SPEAKERS — Dana Hill, left, manager of commercial research for the Continental Can Co., and Alex Akerman, Jr., executive director of the Federal Trade Commission, Washington, will speak before the convention of the American Pet Food Manufacturers Sept. 12 and 13 in Chicago. Mr. Akerman will speak Sept. 12 on the subject, "The FTC and You." Mr. Hill will speak the following day on "New Trends in Packages."

grains seem to be their best possibility. I am somewhat worried about this tremendous extra production of feed grain. I believe all Corn Belt farmers should concern themselves with the many implications all of this new feed grain production may have in the future.

All of the western states have high quality alfalfa hay. This is used everywhere as dry roughage. In recent years the use of chopped green alfalfa has increased greatly. We also produce large quantities of dehydrated alfalfa which is used extensively by most feeders. Most of the dehydrated alfalfa is pelleted in ¼ in. pellets and stored under inert gas storage. This sealed gas storage maintains the protein level from 17 to 20% and the vitamin A level from 100,000 units to 150,000 units per pound. Many feeders like dehy so well they use corn silage as the only roughage with no hay in the ration. Dehydrated alfalfa is usually fed at a level of 1 to 2 lb. per day.

More Large Feedlots

The question asked in the title of my discussion is "Will More and More Large Sized Cattle Feedlots Develop in Iowa and the Midwest?" My answer would be a qualified yes.

This middle-of-the-road answer requires some explanation. We must ask ourselves this question: What economic purpose does cattle feeding serve? I believe there are at least three answers: (1) It adds weight, producing more beef for consumers. (2) It raises grade. (3) It redistributes the seasonal supply of cattle for slaughter.

If you will think about these answers, I believe you will agree that all areas are going to stay in the cattle feeding business.

Flexibility

The Corn Belt is better suited to smooth out supply than any other area. It has grass pasture, where farmers can feed corn on grass. It has good pastures following oats or barley. The Corn Belt has green corn to chop or pasture. It has good fall pasture of all kinds. In the northern part of the Corn Belt, farmers do some very short feeding, and in the central and southern parts they do some very good feeding to prime grade. This flexibility is highly important to the uniform distribution of beef during the entire year.

When you realize that in the last quarter of each year there are placed on feed more cattle than in the other three quarters put together, you can see why the flexibility of the Corn Belt feedlots is needed. Contrast this flexibility to the standardized stereotyped feeding programs of the large western feedlot. It would seem to me that there is both room for and need for a variety of feeding areas.

Larger Farm Units

I do not believe you can overlook the facts of the general tendency for all business units to get larger and more efficient. The day of the 80-acre farm is gone. Farm units must get larger in order to support the mechanical age we are living in. The poultry business has gone from the stage where the farmer's wife made pin money with her eggs and fryers. The turkey industry has seen the same revolution. The dairy business is changing rapidly from a two- to three-cow sideline to a specialized dairy business.

I certainly believe the same tendency will have to come in cattle feeding because it is constantly becoming a more competitive business. Farm income of any kind is based on volume times price less costs. We can do little about the price, so we must concentrate on volume and costs.

To sum up my remarks—no area has all the advantages. The western states have the climate, a good feed supply and a good market outlet. The Corn Belt has its own feed; low cost labor because it is dovetailed with farming to minimize costs; and more flexibility because of various crops. I don't believe either area can beat the other at its own game.

I am firmly convinced that cattle feeding will continue to expand and remain as one of our greatest sources of agricultural income.

Preliminary Plans Set For NTF Convention

MT. MORRIS, ILL. — Preliminary planning for the National Turkey Federation and Turkey Industry Exposition in St. Louis Jan. 7-9 includes arrangements for traditional activities of the convention and some new ones, the NTF announces.

Plans have been made for an artificial insemination training program to be held in connection with the convention, with the Ralston Purina Co. providing the turkeys and facilities for the sessions at its research farm near St. Louis.

An advance deposit of $25 is asked to cover costs of the training, which opens Jan. 9 at the convention and then continues the next day at the research farm. Any remaining funds will be returned to the persons taking part in the sessions.

Traditional activities are also planned, including the kickoff luncheon, officers reception and open house, ladies luncheon, grand banquet, and others. A stage show on a Mississippi river showboat is also planned.

A preliminary planning meeting held with the Missouri Turkey Federation and NTF representatives was held April 30. At that time plans were made for the National Dress Turkey Show, always one of the major attractions of the NTF conventions.

ELEVATOR BURNS

FRANKLIN, NEB.—Lightning is believed to have been the cause of a fire which left damages estimated at $60,000 to the Franklin Grain Co. elevator here. Dean Evans, Evans Grain Co., Salina, owner of the firm, said the loss was $40,000 on the elevator and $20,000 on the contents.

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CONVENTION CALENDAR

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

1957

July 14-15—New Mexico Grain & Feed Dealers Assn. mid-summer meeting; Tucumcari, N.M.; asst. sec., Parley G. Jensen, Box 616, Albuquerque, N.M.

July 14-17 — American Society of Animal Production and American Dairy Science Assn., joint meeting of western units; Washington State College, Pullman, Wash.; co-chm., Dr. M. E. Ensminger, Animal Science Department, and M. H. Ehlers, assistant dairy scientist.

Aug. 13-14—Mutual Millers & Feed Dealers Assn. summer convention; Jamestown, N.Y.; sec., Mrs. Gustavus A. Bentley, 41 Chautauqua Ave., Jamestown, N.Y.

Sept. 9-10—Minnesota Animal Nutrition Short Course; University of Minnesota, St. Paul Campus; chm., Dr. Elton L. Johnson, Department of Poultry Husbandry.

Sept. 16-17 — National Renderers Assn., Seventh Regional Area; Statler-Hilton Hotel, Dallas, Texas; sec., Robert G. Day, Tulsa Rendering Co., Collinsville, Okla.

Oct. 22-23—Indiana State Poultry Assn.; Hotel Antlers, Indianapolis, Ind.; chm., Robert L. Hogue, Poultry Building, Purdue University, Lafayette, Ind.

●

July 9-10 — Cornell Poultrymen's Get-Together; Cornell University, Ithaca, N.Y.

July 16-19 — American Poultry & Hatchery Federation; Municipal Auditorium, Kansas City; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

July 19-20—Kansas Seed Dealers Assn.; Hotel Broadview, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

July 28-Aug. 1 — Southeastern School of Management for the Poultry Industry (second session); University of Georgia, Athens, Ga.; sponsored by the university and Southeastern Poultry & Egg Assn., 615 E. Franklin St., Richmond 19, Va.

July 31-Aug. 2 — West Virginia Poultry Convention & Festival; Moorefield, W. Va.; chm., Ted R. Hash, extension poultryman, West Virginia University, Morgantown, W. Va.

Aug. 11-13 — Georgia Feed Assn.; Radium Springs, Albany, Ga.; sec., Will L. Kinard, 3240 Peachtree Road Bldg., Atlanta 5, Ga.

Aug. 15-16 — New England Feedmen Conference; University of Connecticut, Storrs, Conn.; sec., George E. Durgin, Box 345, Wakefield, Mass.

Aug. 19-20 — Kentucky Feed & Grain Assn.; Sheraton-Seelbach Hotel, Louisville, Ky.; sec., Fred H. Schardt, P.O. Box 1914, Louisville 1, Ky.

Aug. 19-20 — Wisconsin Nutrition School for Feed Men; Memorial Union, University of Wisconsin, Madison, Wis.; co-chm., Gus Bohstedt and Robert H. Grummer, Department of Animal Husbandry.

Aug. 19-22 — Georgia Poultry Institutes; Rock Eagle 4-H Center, Eatonton, Ga.; chm., J. H. Massey, extension poultryman, University of Georgia, Tifton, Ga.

Aug. 23—Purdue Swine Day, Purdue University, Lafayette, Ind.; co-chm., Dr. M. W. Beeson and J. H. Conrad, Animal Husbandry Department.

Aug. 26 — National Soybean Processors Assn.; Leamington Hotel, Minneapolis, Minn.; pres., R. G. Houghtlin, 3818 Board of Trade Bldg., Chicago 4, Ill.

Aug. 27-28 — American Soybean Assn.; Leamington Hotel, Minneapolis, Minn.; exec. v.p., George M. Strayer, Hudson, Iowa.

Sept. 8-10—Grain & Feed Dealers National Assn.; Commodore Perry Hotel, Toledo, Ohio; sec., John C. Bowden, 100 Merchants Exchange Bldg., St. Louis 2, Mo.

Sept. 11-12 — Michigan State Hatchery Conference; Michigan State University, East Lansing, Mich.; chm., Harry E. Hathaway, Michigan State Poultry Improvement Assn., East Lansing, Mich.

Sept. 11-13 — American Pet Food Manufacturers; Drake Hotel, Chicago; sec., R. L. Kathe, APFM Division of American Feed Manufacturers Assn., 53 W. Jackson Blvd., Chicago 4, Ill.

Sept. 12—Illinois Turkey Growers Assn.; Harvey Wenzel Turkey Farm, Garden Prairie, Ill.; sec., Howard Kauffman, Waterman, Ill.

Sept. 12-13—Iowa Nutrition Conference; Iowa State College, Ames.

Sept. 17 — North Dakota Turkey Federation; Devils Lake, N.D.; sec., Irving J. Mork, Poultry Husbandry Department, North Dakota Agricultural College, State College Station, Fargo, N.D.

Sept. 18-20 — National Mineral Feeds Assn.; Sheraton Hotel, Chicago; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 26-27 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Animal Industry Department.

Oct. 2—Vermont Feed Dealers and Manufacturers Assn.; University of Vermont, Burlington, Vt.; sec., D. C. Henderson, Poultry Department.

Oct. 3-4—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Department.

Oct. 4-5—Texas Formula Feed Conference; Texas A&M College, College Station.

Oct. 8-10 — Northeastern Poultry Producers Council Poultry Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; chm., Alfred Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

Oct. 10-12 — National Renderers Assn.; Hotel Statler, Los Angeles, Calif.; sec., Miss Jamie C. Fox, National Renderers Assn., 30 N. LaSalle St., Chicago 2, Ill.

Oct. 14-16—Virginia State Poultry Federation; Hotel Roanoke, Roanoke, Va.; chm., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 16-17—Association of American Feed Control Officials, Shoreham Hotel, Washington, D.C.; exec. sec., L. E. Bopst, Room 036 New Chemistry Bldg., University of Maryland, College Park, Md.

Oct. 17-18 — Michigan Feed and Grain Conference; Kellogg Center, Michigan State University, East Lansing; sec., John A. Krusoe, Box 472, East Lansing, Mich.

Oct. 18—Nebraska Feed and Nutrition Conference; University of Nebraska, Lincoln, Neb.; chm., W. J. Loeffel, Department of Animal Husbandry.

Oct. 21-22—California Animal Industry Conference; Memorial Auditorium, Fresno, Cal.; chm., Emery A. Johnson, Box 23415, Lugo Station, Los Angeles 23, Cal.; sec., California Hay, Grain & Feed Dealers Assn., John F. Gilmore, 1400 Tenth St., Sacramento 14, Cal.

Oct. 24-25 — Oklahoma Formula Feed Conference; Oklahoma A&M College, Stillwater; chm., Dr. Rollin Thayer, Poultry Husbandry Department.

Oct. 25—Illinois Sheep Production Day; University of Illinois, Urbana; chm., Dr. E. E. Hatfield, 110 Stock Pavilion, Urbana, Ill.

Oct. 27-Nov. 2 — Southeastern School of Management for the Poultry Industry (third session); University of Georgia, Athens, Ga.; sponsored by the university and Southeastern Poultry & Egg Assn., 615 E. Franklin St., Richmond 19, Va.

Oct. 31-Nov. 1 — Cornell Nutrition Conference for Feed Manufacturers;

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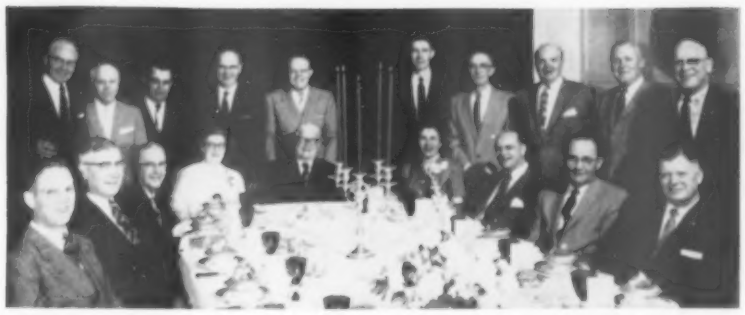

ARCADY 20-25 YEAR CLUB—Members of the 20-25 Year Club of the Arcady Farms Milling Co. met recently in Chicago. Attending the meeting were, left to right, seated: L. J. Danielson; J. W. Young; O. A. Boyst; Mary L. Schuettler; F. W. Adams president; Tekla Maschoff; T. L. Mitchell, vice president; E. E. Lytle, and F. A. Fahrbach. Standing are R. R. Lee; G. E. LeFever; C. C. Allen; A. Goeringer; E A. Roelle; L. C. Radtke; P. Kruse; R. J. Lyons; H. E. Thompson, and E. A. Porter.

Statler Hotel, Buffalo, N.Y.; chm., Prof. J. K. Loosli, Stocking Hall, Cornell University, Ithaca, N.Y.

Nov. 1 — Illinois Cattle Feeders Day; University of Illinois, Urbana; chm., Dr. A. L. Neumann, 110 Stock Pavilion, Urbana, Ill.

Nov. 5-6—Missouri Formula Feed Conference; University of Missouri, Columbia.

Nov. 7-8 — Florida Nutrition Conference; University of Florida, Gainesville; chm., J. P. Feaster, Department of Animal Husbandry and Nutrition.

Nov. 17-18—Tennessee Feed Manufacturers Assn.; Peabody Hotel, Memphis, Tenn.; exec. sec., W. H. Levine, 200 Baxter Bldg., Nashville, Tenn.

Nov. 20-22—Midwest Feed Production School; Municipal Auditorium, Kansas City; sponsored by Midwest Feed Manufacturers Assn.; exec. v.p., Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 22-27 — North Carolina Feed Manufacturers Assn. and allied group convention-cruise to Nassau; chm., W. G. Crawford, Goldsboro Milling Co., Goldsboro, N.C.

Nov. 25-26—Western Grain & Feed Assn.; Hotel Fort Des Moines, Des Moines, Iowa; sec., Mark G. Thornburg, 928 Des Moines Bldg., Des Moines 9, Iowa.

1958

Jan. 6-7 — Kansas Formula Feed Conference; Kansas State College, Manhattan, Kansas; chm., Prof. F. W. Atkeson, Department of Dairy Husbandry.

Jan. 7-9—National Turkey Federation; Keil Auditorium, St. Louis, Mo.; sec., E. M. Funk, Mt. Morris, Ill.

Jan. 22-25—Boston Poultry Show; Mechanics Bldg., Boston, Mass.; sec., Alfred Van Wagenen, Northeastern Poultry Producers Council, 10 Rutgers Place, Trenton, N.J.

Jan. 27-29 — Southeastern Poultry & Egg Assn.; Municipal Auditorium, Atlanta, Ga.; headquarters hotel, Dinkler Plaza; exec. sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Feb. 3-5—Association of Southern Agricultural Workers; Hotel Marion, Little Rock, Ark.

Feb. 6-7—Oregon Animal Industry Conference; Oregon State College, Corvallis, Ore.; gen. chm., Fred West, Oregon Feed & Seed Dealers Assn., college chm., Dr. J. E. Oldfield, Department of Animal Husbandry.

Feb. 13-14 — Washington State Feed Assn.; Chinook Hotel, Yakima, Wash.; sec., J. G. Wilson, 814 Second Avenue Building, Seattle, Wash.

Feb. 14-16—Institute of American Poultry Industries Fact Finding Conference; Municipal Auditorium, Kansas City, Mo.; sec., Dr. Cliff D. Carpenter, 221 N. LaSalle St., Chicago 1, Ill.

Feb. 23-25 — Ohio Grain & Feed Dealers Assn.; Commodore Perry Hotel, Toledo, Ohio; sec., G. E. O'Brien, Ohio St., Greenville, Ohio.

Feb. 24-27 — Colorado Livestock Days; Colorado State University, Fort Collins, Colo.; sec., Dr. Sherman S. Wheeler, director of the experiment station.

Feb. 25-26 — Virginia Polytechnic Institute Nutrition School for Feed Men; Hotel Roanoke, Roanoke, Va.; chm., Paul M. Reaves, professor of dairy science.

Feb. 26-28—Midwest Feed Manufacturers Assn.; Muehlebach Hotel, Kansas City; exec. v.p., Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

May 18-23—Grain Elevator & Processing Superintendents; Minneapolis, Minn.; sec., Dean M. Clark, 1115 Board of Trade Building, Chicago 6, Ill.

May 21-23—American Feed Manufacturers Assn.; Morrison Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

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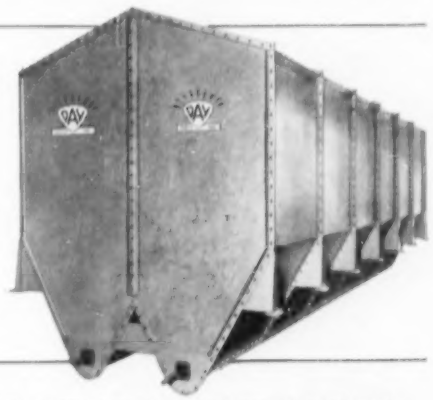

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What were the results?

Here are the objectives that were set up and a brief comment on the success in meeting them:

Objective 1: To invite every owner of a laying flock to find out how this new kind of feed can help him or her in getting more eggs all year round.

Result: Laying-flock owners in all parts of the U.S. are now aware of the extra eggs they can get from Extra-Production Laying Feeds containing Terramycin.

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Result: Many feed companies that cashed in on this contest by making an Extra-Production Laying Feed containing Terramycin found that this new feed outsold their best regular laying feed.

Objective 3: To help dealers make more of the important first-bag sales.

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The Sweepstakes contest is over but sales of Extra-Production Laying Feeds containing Terramycin have just started for thousands of feeders and dealers. The dollar volume you can quickly develop is as great—and probably much greater—than your present market for other profitable specialty feeds.

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Winner of Laying Plant:

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Winners of Motorola Color TV Sets:

Missouri, Canton
Mrs. Henry Hendrickson (Porter's Feed Store)
Ohio, Defiance
Donald L. Lehman (Glenn L. Miller)
Oklahoma, Newkirk
Mrs. S. H. Mounce
(Johnston's Produce, Blackwell, Okla.)
Oregon, The Dalles
Mrs. E. C. Thompson (R. W. Hughes Feeds)
Texas, Trinity
Mrs. Lucile Duntap (Stubbs Feeds)

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Springdale, Posie G. Finn (Purina Milling Company)
Springdale, Mrs. G. W. Reder (Quality Feed Store)

FLORIDA
Homestead, Miles A. Newton (Acker Hardware)

ILLINOIS
Ashton, Mrs. Wayne Pfeiffer (F & S Feeds, Amboy, Ill.)
Brocton, William R. Whitesell (Owen Cox & Son)
Champaign, Harshal C. Tummelson (Feed Farm Supply)
Ivesdale, Mrs. Ed Forrestal (Cook & Eckstein)
Watseka, Gerald R. Overacker (Big H Farm Supply)

INDIANA
Farmersburg, Herman Hall (Lash Milling Co.)
Kingman, Mrs. Franklin E. Dark (Janeway)

IOWA
Ainsworth, Roy Stuart (Bill Trotter)
Mt. Pleasant, Ray D. Schlatter (Boshart Feeds)

KENTUCKY
Salem, Roberta Chittenden (Herman Croft)

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Elkton, Carl W. Foucht, Jr. (Elkton Co-op)

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Dowagiac, Niel J. Tice (Dowagiac Co-op)

MINNESOTA
Westbrook Mrs. John Streeter (Farm Bureau)

MISSOURI
Graham, J. C. Hunt (Neat Produce Co.)
Troy, Marita Martin (Snider's Store)

NEBRASKA
Valparaiso, James D. Martin (Valparaiso Produce)

NEW YORK
Mongaup Valley, Frances Pudbereskyn
(Inter County Feed Co.)
Monticello, Charles Vernoy (Inter County)

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Fremont, Mrs. Sanford Hooks (Irvin N. Davis)
Warrenton, Bill Connell (Warren Feed Mills)

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Hickson, Arthur Bye (H. E. Olson Seed Co.)

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SOUTH DAKOTA
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Collinsville, Mrs. Evelyn Brewer (Herman Blackwell)

ARIZONA
Payson, Paul R. Ashby (Arizona Flour Mills)

ARKANSAS
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Magnolia, Mrs. Lee Westbrook (Ark-La Feed Co.)
Warren, Mrs. Aubrey Courtney (Ray Lawton)

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Arcata, Mrs. Alice M. Lancaster (Humboldt Milling Co.)
Chico, Mrs. Bertha Roy (Butte Feed & Grain)
Dinuba, Earl Nickel (J. B. Hill Co.)
Manteca, Mrs. M. Spandrio (Cottrell's)
Manteca, Mrs. D. C. Wheeler (Manteca Feed)
Ontario, John Arnold (Bell Grain and Milling)
Salinas, Charles F. Lackey (Valley Feed)
San Pablo, Alvin F. Johnson (Lucky Day Pet Shop)

COLORADO
Kutch, Harold Niblock (Economy Feed Mills)

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Norwich, Dan Radin (Yantic Grain Co.)

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Ocala, Mrs. F. M. Hendley (Watts & Wright)
Ocala, Mrs. Eula Wills (Seminole Seed & Feed Co.)
Summerfield, Marian Zaslgwski (E. Nelson)
Tampa, Mrs. Estalee Eckert (Ralston Purina Co.)

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Sautee, Clarence Gurley (Arrendale)
Stillwell, Edward W. Lynch (Rahn Supply)
Wrens, E. D. Kuntz (Marbut Milling)

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Boise, Leland H. Marks (Perkins Store)

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Cortland, Elmer Engstrom (Tucks Feed)
East Lynn, Mrs. C. J. Mercer (Singleton Grain Co.)
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LaSalle, Marie Wenzel (Utica-LaSalle Hatchery)
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Fayetteville, William Printz (Eastern States)
Mercer, Roy Bronson (Altman's)
Quakertown, Soskin's Manitou Farm (Walter K. Long)
Quarryville, Chester F. Carrigan (Ross H. Rohrer & Sons)
Watsontown, Mrs. Cleon Reese (Farm Bureau Co-op)
Watsontown, John J. Schell (Farm Bureau)

SOUTH DAKOTA
Castlewood, William L. Tone (Watertown Milling Co.)
Garretson, Stanley Gilman (Farmer's Co-op)
Trent, Mrs. Merle Anderson (Sunshine Hatchery)
Vermillion, Mrs. Leo Trudeau (Bartlett & Co.)
Watertown, Mary E. Smedley (Watertown Milling Co.)

TENNESSEE
Adamsville, A. H. Smelser (D. J. Pyron)
Ashland City, Mrs. S. G. Hunt
(Cheatham's Farmer's Co-op)
Cleveland, A. L. Parks (Bradley Supply Co.)
Daltewah, Mrs. B. M. Davis (Security Feed & Seed)
Eaglevile, T. S. Williams (W. H. Dyer)
Harrison, Fred Burns (Checker Board Feeds)
Thornhill, Hubert Davidson (W. B. Coffey)
Watertown, Mrs. Henry Throne (Co-op Feed Store)
Winchester, George T. Warren (Goodman Mill Co.)

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Atlanta, C. W. Lovelady (Douglas Hendricks)
Dallas, Don Mory (Dallas Daily Egg Co.)
De Kalb, W. S. Dalby (DeKalb Hardware)
Denison, J. X. Davis (M. R. Webb)
Denton, L. C. Lively (Lowry Farm Supply)
Ennis, Mrs. Wilson Nesuda (North Feed Store)
Irving, James F. McCarthy (Irving Grain)
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Sadler, John H. Eldridge (Marvin Knight)
Schulenburg, James Tobola (Genser Produce Co.)
Vidor, Jim T. Stone (Jones Feed Co.)

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Fillmore, Paul Adams (Utah Poultry)
Newcastle, Robert J. Reeve (Dixie Feed Co.)

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Arodo, Mrs. Wayne Jones (Madison Co-op)
Blue Ridge, Arle E. Holland (South States Co-op)
Hickory, J. L. Bulifin (Berkley Feed Corp.)
Richmond, Mrs. William Mathews (Carter-Venable)
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Colgate, Mrs. Peter Bauer, Jr. (Herman Wolf & Sons)
Dalton, Mrs. William Bartlett (Fox River Feed Mills)
Juda, Elwood Koch (Monroe Roller Mills)
Luxemburg, Melvin E. Reinca (Fabry Milling)
Stratford, Ervin Kress (Joe Hein)
Willard, Louis Fortuna (Park's Store)

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Sterling, Gerald A. Protzman (Alaska Farm Supply)

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Are Radical Changes Coming In Hog Production Methods?

Special Report Brings Together Observations on Possible Trends

Some people look for hog production to follow the path of poultry production and develop into an industry of specialized and larger scale feeding operations. Some believe that there will be more financing of hogs and that integration will become extensive in the swine business.

At any rate, marked changes in swine production are foreseen by many persons as producers make use of new feeding and management methods and as moves are made to produce better quality pork more efficiently and to market hogs more uniformly.

As one indication of the change and possible changes, they point to the "pig parlors" and relatively new swine feeding enterprises in the South.

All of the developments are, of course, of importance to feed men in major hog producing areas and new areas of swine production.

Special Report

Comments on possibilities inherent in the apparent trend toward marked changes in hog production methods were part of a recent special report from the American Meat Institute Foundation, Chicago. The foundation is a not-for-profit scientific research and educational organization affiliated with the University of Chicago and engages exclusively in research relating to the processing and utilization of products derived from livestock.

The special report, which went to companies contributing to support of AMIF research, was prepared by Dr. O. H. M. Wilder, chief of the foundation's division of animal feeds.

The foundation has not taken any position on the subject of changes in hog production, nor has it made any predictions of ultimate developments in this field. Rather, the report is a compilation of various observations of interest to the foundation because of its work in animal nutrition and because of possible effects of any changes on meat packers' operations.

"While long range predictions can be accepted only as possibilities and never as certainties," the AMIF report said, "it is apparent that many responsible observers believe that current trends in hog production methods are indicative of sweeping changes in the offing.

Indications of Change

"Cited as discernible guideposts are recent developments in animal breeding and health and similarly important advances in feeding of high-energy, high-efficiency rations.

"Especially significant, however, are experiments in contract growing and coordination, or integration, in hog production—a development that could be identified as a precursor of radical changes in hog production similar to those which already have taken place in the poultry business.

"While these guideposts definitely are visible, it is impossible at this stage to be certain how far this transition will go or to evaluate the impact that such changes would have on the meat packing business. It must be recognized, nevertheless, that the potentialities are tremendous and that the situation merits careful watching."

Dr. Wilder points out that quality and marketing problems are assuming steadily increasing importance in the hog business. There is a need for improvements in production and marketing of leaner pork. In this connection, the report goes on to quote remarks of some agricultural economists published recently in Feedstuffs: "One organization in the marketing channel may take the lead in seeing that a more rapid change is made. This might mean integration. For example, a retail organization might contract farmers for specific quantities of hogs or could actually attempt to raise them according to their specifications for breed, feed and time of sale. Some outside organization such as a feed company might stimulate the change by contracting with both farmers and processors for scheduled production of a uniform, specified product."

Integration Likely?

The AMIF report continues:

"Some spokesmen in the feed industry now feel that new feeding and management developments, plus expanded financing of the swine producer, may mark swine as the next step of integrated agriculture, following broilers, turkeys and laying flocks. These observers point to a developing program in the South, where it has been predicted by the livestock sales manager of one feed company that they will have 5,000 pig parlors in operation by the end of 1957.

"Most of this new crop of hog feeders in the South are either building new low-cost buildings or converting horse barns, sheds or, in some cases, poultry houses. A concrete floor is poured, waterers and feeders put in, and the farmer is in the hog business as soon as he can procure the pigs.

"Some farmers are planning batteries of such units for large scale production. Labor costs are kept to a minimum by use of self-feeders and waterers. The feed dealer refills the

(Continued on page 10)

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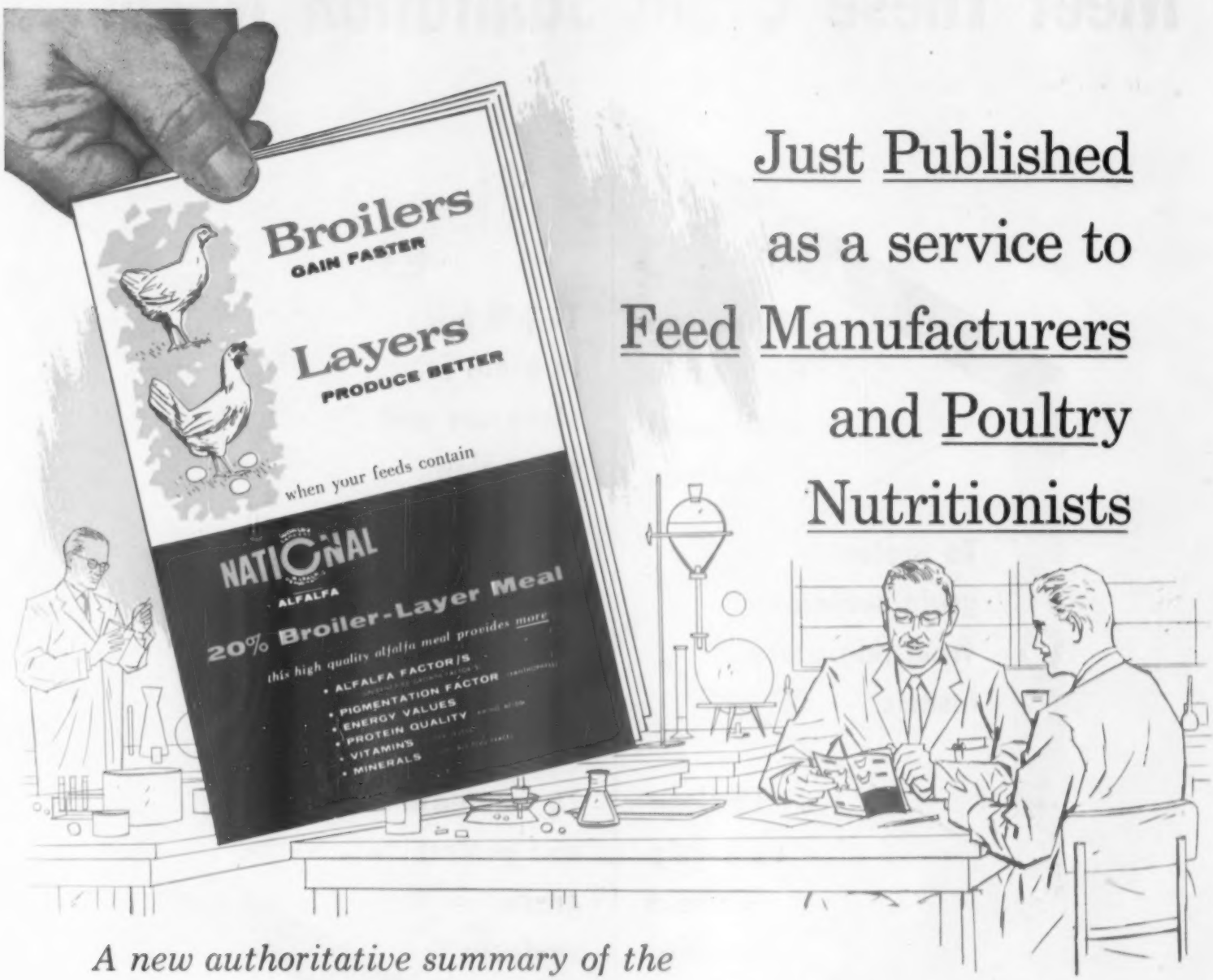

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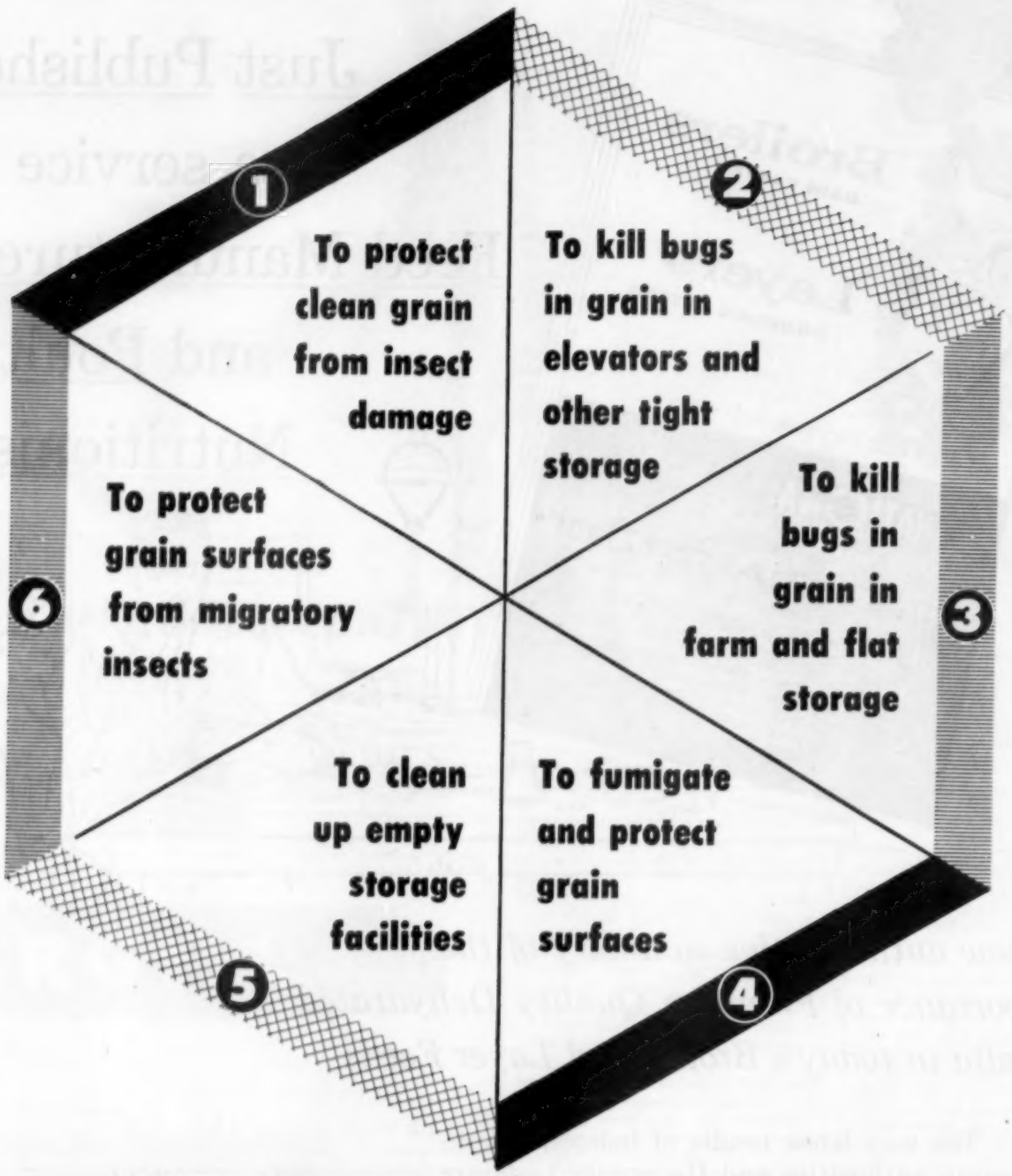
1
To protect clean grain from insect damage
2
To kill bugs in grain in elevators and other tight storage
3
To kill bugs in grain in farm and flat storage
4
To fumigate and protect grain surfaces
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To clean up empty storage facilities
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To protect grain surfaces from migratory insects

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is the modern fireproof liquid grain protectant that is applied to clean grain as it goes into storage. TETRAKOTE is used on all types of grain that are to be in storage six months or longer. TETRAKOTE protects stored grain from insect attack for periods up to 12 months or longer with just one simple application, at a cost of less than 2c a bushel.

2

DOUGLAS TETRAFUME

is a liquid, fireproof, fumigant designed for use in steel and concrete elevators or other tightly constructed storage bins. TETRAFUME is also an ideal grain conditioner. Apply TETRAFUME to grain just before turning, and TETRAFUME's conditioning action will cool heating grain, retard moisture damage and remove musty odors. Still another use is in protecting grain in transit (trucks and boxcars).

3

DOUGLAS TETRAKIL

is America's number one weevil killer for on-the-farm fumigation and for grain commercially stored in flat storage. Its killing action is such that it is effective even in the most loosely constructed enclosures. When applied as directed, TETRAKIL provides positive killing action.

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DOUGLAS TOPKOTE "77"

a new blend of grain-protecting and insect-killing ingredients that gives your stored grain two-way protection with each simple application. TOPKOTE "77" fumigates the grain surface, killing any weevils or other insects that may be in the top layer of the grain. At the same time, TOPKOTE "77" leaves a residual coating on the top of the grain that protects the grain from future attack.

5

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Storing clean grain begins with clean storage facilities. First step should be a thorough cleaning of all storage bins—sweep out all dust, grain refuse and debris. Spray all exposed areas—walls, ceilings, cracks, crevices—with Douglas FARM BIN SPRAY. This 100% active residual insecticide gives months of protection when used as directed. FARM BIN SPRAY kills bugs on contact. Use on outside of bins before fumigation.

6

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used as a surface or space spray protects against insect attack. Killing action lasts for weeks, yet it is safe to use on grain and other food products. Douglas SPECIAL MILL SPRAY protects the surface of the grain with a residual coating that keeps migratory insects from attacking the grain. If you can see bugs on grain surface, use TOPKOTE "77"! If you don't see bugs on the surface, use SPECIAL MILL SPRAY!

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feeders once a week. The farmer checks the operation of the feeders and waterers and washes the floor down every day—only a matter of minutes per pen.

"One thing that prevents a more rapid expansion of this method of hog feeding is a supply of good feeder pigs. This problem appears likely to be met either by the farmer building up a breeding herd or by a revival of the pig hatchery of a few years ago. New ideas of sanitation, disease prevention and scientific feeding make it easier to produce feeder pigs, and large scale production here would allow better selection of breeding for the type and rapid gain characteristics desired."

In connection with marketing and possible effects on meat packers, the report says that, if the trend continues, some packers feel that the processor would be able to maintain more uniformity in his products because of a more uniform supply of animals—uniform in both quality and numbers at any one time.

Hogs could be started at regular intervals and brought to market at predetermined times. The more steady flow of quality hogs might minimize peaks and valleys in marketings, make for more efficient packing operations, and aid in stabilizing prices for hogs.

Feed Industry

"The change-over to such a production system," the report says, "likely would take more capital and know-how, but the feed industry has demonstrated an inclination to contribute in this connection by helping farmers get the equipment, the pigs and the feed and, where necessary, by supplying the know-how for maximum efficiency and economy in volume production of quality hogs.

"The merits of such a production and marketing system can be argued pro and con, and we can speculate about methods and effects on the processing industry. We can't argue, however, with the fact that changes have come and will continue to come in hog production and marketing. . . . Since the progression of developments is not likely to take place in a spectacular manner, about all that definitely can be said at this time is that the situation is one that will merit close watching."

The report points out that high efficiency in hog feeding is possible and it mentions foundation research on the role that animal proteins and fats can play in new high-efficiency rations.

Some feed trials, it is noted, have shown that hogs can be brought to market weight on 286 lb. of feed per 100 lb. of gain. On lower efficiency rations, hogs have been requiring as much as 400 lb. of feed per 100 lb. of gain. On this basis, the report says, the position of animal by-products in development of improved feeds appears to be firm.

New White Leghorn Strain Announced

SOUTH VINELAND, N.J.—The development of a new cross-strain S. C. White Leghorn strain was announced recently by Gus Stern, founder of Stern Bros.' Breeding Farms & Hatchery. He said the strain, developed after five years of breeding, will be known as "Stern's 16-3 Imperials."

Mr. Stern said the new egg strain "comes into steady production of large, chalk white eggs sooner and maintains a rate of lay that is already causing widespread attention among geneticists."

The new Leghorns are in the Flemington, N.J., Egg Laying Test, sponsored by Rutgers University. One bird, called "Meg-O'Day," had laid 250 eggs in 251 days at the time of this announcement, Mr. Stern said. Other Stern entries, he said, were pace-setting the event.

FEED MILL INCORPORATES

GALVA, KANSAS—Becker Feed & Supply, Inc., here, a feed mill, has completed incorporation procedure, with capitalization of $50,000. Dayton Dale Becker is resident agent.

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Dawe's Choline Chloride 25%: A dry feed supplement containing 25% choline chloride on powdered cereal carrier. Particle size is ideal for thorough dispersion. It is completely free-flowing, non-sticky and handles well in either batch or continuous mixing operations.

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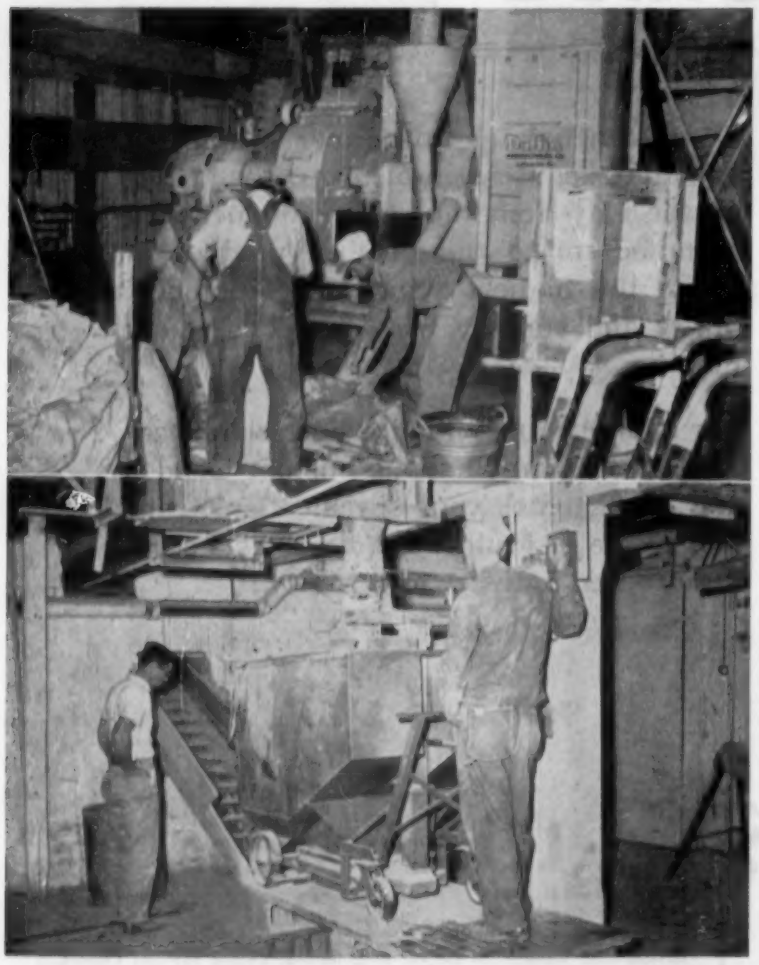
WORLD'S OLDEST AND LARGEST SPECIALISTS IN VITAMIN PRODUCTS FOR FEEDS

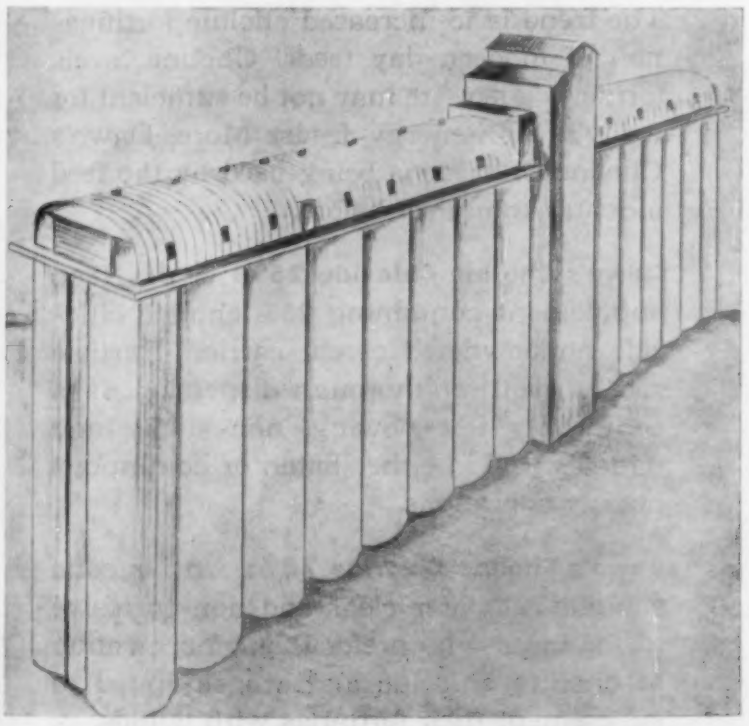
MONTANA CONFERENCE—Here are pictures from the recent Nutrition Conference at Montana State College, Bozeman. Shown are several of the speakers and new officers of the Montana Feed Manufacturers & Dealers Assn. Left to right in the first photo are W. T. Diamond, American Feed Manufacturers Assn., Chicago; Dr. W. P. Johnson, American Cyanamid Co., Pearl River, N. Y.; Dr. D. F. Green, Nitrogen Division, Allied Chemical & Dye Corp., New York, and Dr. A. J. Wood, University of British Columbia, Vancouver. Other speakers are in the second photo—Dr. J. H. Hare, Chas. Pfizer & Co., Inc., Terre Haute, Ind.; Dr. O. O. Thomas, Montana State College; Dr. T. H. Blosser, Washington State College; Dr. L. E. Hanson, University of Minnesota, and E. G. Cherbonnier, Grain & Feed Dealers National Assn., St. Louis. New officers of the Montana association are in the third photo—left to right, Joe Eisenman, Fairfield Feed & Seed, vice president; Elmer Bahn, G.T.A., secretary, and Maynard Johnson, Belgrade Alfalfa Mills, president.

Camera Views of the News

MISSISSIPPI BROILER QUEENS—Queens were a big part of the Mississippi Broiler festival held at Forest, Miss., June 13. In the first picture is the "Baby Chick" of the festival, Susan Stegall, 5. Wearing the crown in the second picture is Carolyn Roper, Bay Springs, queen of the festival, and at right is alternate Cynthia Mallard, Jackson. The new queen was presented a convertible, complete with insurance, and a scholarship. Following a program which included the coronation and talks by Gov. Coleman of Mississippi, O. H. Green, Spartanburg, S. C., executive director of the American Poultry & Hatchery Federation, and Frank Frazier of the National Broiler Council, a chicken barbecue was served.



BACK IN PRODUCTION—The Pennsylvania Farm Bureau branch feed plant at Manheim, Pa., has been back in production for some time now following a fire this spring which destroyed feed processing equipment. Officials said that shortly after damage was determined, new equipment was installed and the plant soon returned to an annual production rate of 40,000 tons—within 8,000 tons of the previous rate, the difference being represented by pelleted feed, which is not handled by the new equipment. A "packaged" feed mill was built and trucked to the fire-stricken building by Daffin Manufacturing Co. of Lancaster, Pa. The unit, installed on one level, is a "Single Mixer-Blender" equipped with hammermill, dust-control system, mixer and liquid molasses blender. In the top picture, millhands are loading the flush-with-floor hopper that feeds concentrates to the units mixer-blender. Warmed molasses is pressure-sprayed onto the grist as it enters the mixer. In the bottom photo, grains from storage are being weighed and loaded into the traveling feed table installed on the other side of a partition.



NEW HEAD HOUSE—Wonder Building Corp. of America, Chicago, has announced development of a new trussless steel head house for grain elevators. Curved sections of 2 ft. wide galvanized, corrugated steel sheets bolt together to form a building without posts or trusses. An example of the head house is shown on the drawing above. The announcement said the new development is designed to eliminate cumbersome and awkward construction procedures.

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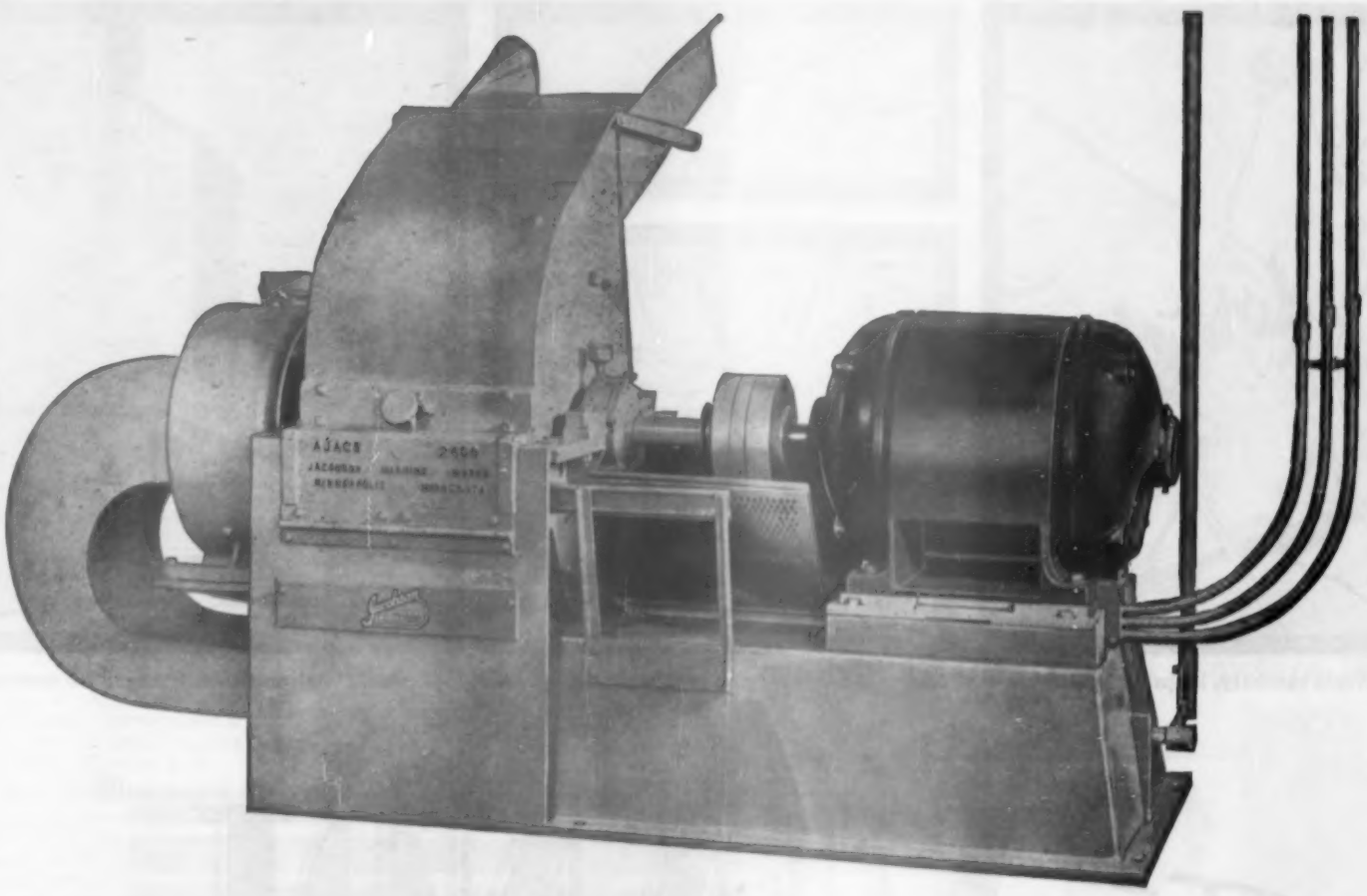

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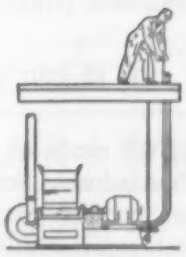

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In minute crystalline form, this antioxidant is non-electrostatic and easy to use as a dry blend, or you can apply it in an oil base. Either way, you get uniform protection with a minimum of mixing time.

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Swine Producers See More Disease Problems With Confinement Rearing

GRUNDY CENTER, IOWA—More hogs raised in confinement mean more disease problems for a good share of the nation's hog producers, according to a report made recently by the National Hog Farmer, a monthly publication for swine producers.

The publication said that 38.6% of the producers responding to a recent swine disease survey felt that they were experiencing more disease problems now than five years ago, and 40% figured that they had to be more careful because of the increased number of farrowings.

The National Hog Farmer said it surveyed 1,000 of the nation's hog producers, and 42% responded.

The four most important diseases in terms of trouble caused were reported to be scours, erysipelas, pneumonia and anemia. About 45% of those answering felt that scours and erysipelas were the two biggest trouble-makers.

Parasites

The survey indicated that, among swine parasites, round worms were by far the biggest problem. Almost 50% of the producers felt that this parasite caused the most trouble. Some 82% said they wormed their hogs regularly as needed.

With problems of disease control under confinement rearing, more than half of the producers felt that more research should be done on swine diseases and parasites. They said that rhinitis needed the most research, followed closely by T.G.E. and erysipelas.

More than 80% of the producers responding to the survey said they ran into trouble—for example, if they had a group of unthrifty pigs and wanted advice on what to do.

Where Products Bought

Most animal health products, it was indicated, were bought through veterinarians, although 21% said they purchased from a local feed dealer and 17% said they bought the products from their local druggist. Sixty four percent said they did not vaccinate their own hogs, while 34.5% said they did.

Some 70% of the producers said they felt there was not enough information available on swine diseases at the present time. The producers said that farm publications and extension workers carried the biggest share of the load in passing out information on disease problems and control.

Farm publications ranked just behind veterinarians as a source of influence in the purchase of animal health products.

Eighty percent of the producers favored more forceful laws covering sale and transfer of breeding stock from farm to farm and across state lines.

Sixty four percent of the producers responding to the survey said their hogs were farrowed in a hog house with a concrete floor.

Twenty four percent said they finished their hogs after weaning on a concrete feeding floor.

However, indications of more confinement rearing on concrete were seen in the figures indicating that 66.4% of the producers planned to build concrete feeding or farrowing facilities within the next five years.

Kentucky Studies Pastures for Cattle

LEXINGTON, KY.—A pasture of bromegrass and ladino clover produced carcasses at the highest price per pound, most dollars of beef per acre and the highest average carcass grade in a grazing experiment conducted by animal husbandry and agronomy departments of the University of Kentucky.

According to Frank Buck of the animal husbandry department, and W. C. Templeton, Jr., agronomist, the tests are preliminary. They said that testing in the future "might produce different results."

They noted, too, that final weights of the three test lots of steers, the highest average daily gain, the largest number of pounds of beef per acre, the most steer-days for grazing, the highest carrying capacity pasture, and the best dressing percentage of the steers "did not vary enough in the final figures to be considered significant."

Mixtures used were Kentucky bluegrass-white clover, Kentucky bluegrass-birdfoot trefoil, and the brome-ladino mixture.

Eighty yearling Hereford steers, grading good to choice at the start, were used. Idea of the test was to check carrying capacity of the mixtures as shown by "steer days," average daily gains and "beef-gain-per-acre."

The difference of performance of the bromegrass, it was emphasized, was not considered significant because the grass does not always have a good stand under normal Kentucky conditions.

The birdsfoot trefoil—as well as the brome—is subject to a fungus disease which killed a lot of the birdsfoot trefoil during the test year.

The steers fed the brome-ladino mixture sold for $3.70 more per cwt. and gave $13.22 more money return per acre in this one-year test.

ALUMNI DIRECTOR

MADISON, WIS.—The University of Wisconsin Alumni Assn. has elected five new directors, including Dr. Robert Spitzer, Murphy Products Co., Burlington, Wis. More than 21,000 association members were polled in a mail ballot to select the directors.

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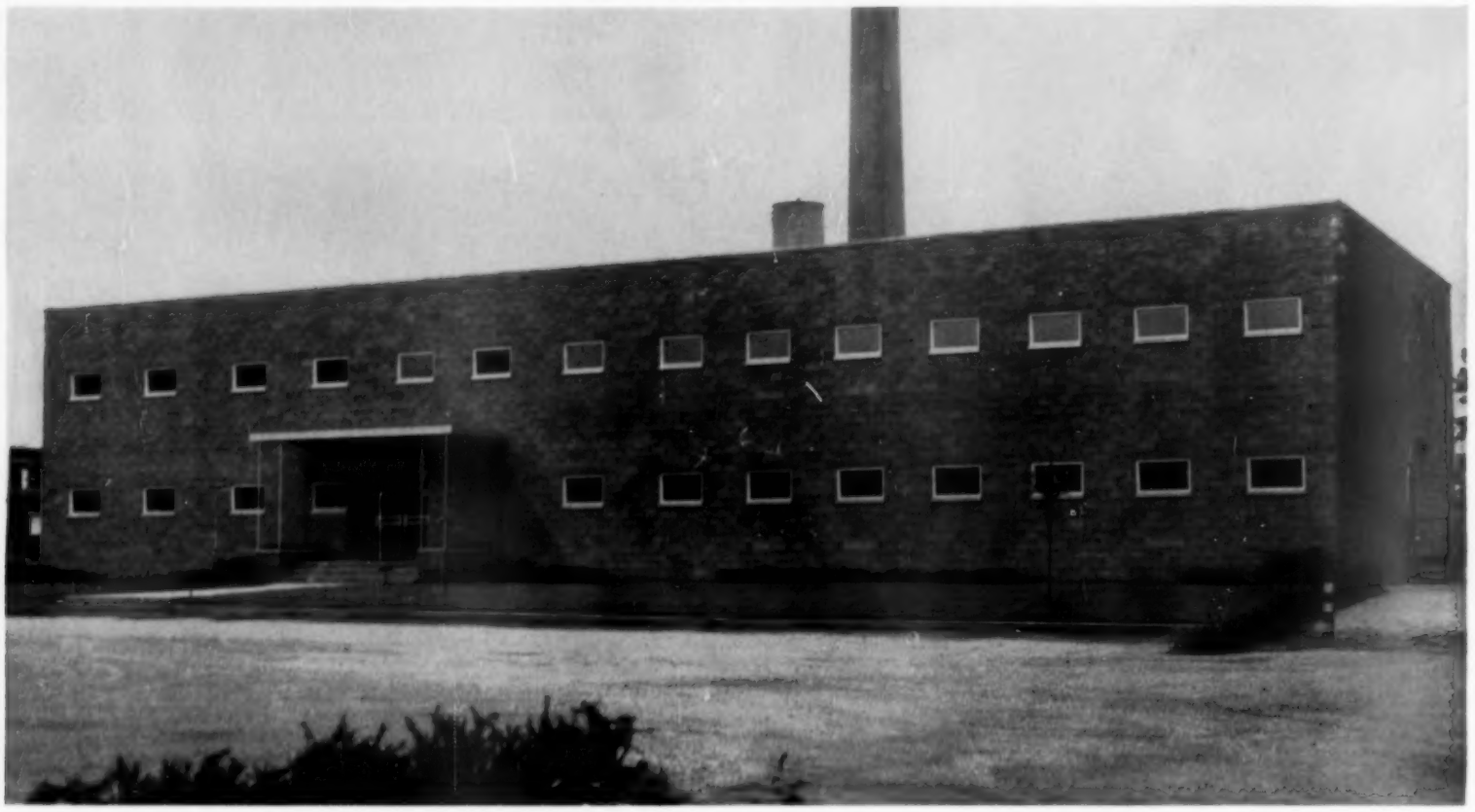

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BANDANNA PRINTS—Fulton Bag & Cotton Mills are introducing to the feed and flour trades cotton bags with bandanna-print designs. Displaying samples are Miss Helen Landon, 1957 "Maid of Cotton," and Eugene B. DuBois, Fulton vice president and general sales manager.

Placements for Supply Flocks Show Increase

WASHINGTON — The indicated placement of pullet chicks for broiler hatchery supply flocks by 10 of the largest primary breeders of broiler replacement stock totaled 2,899,000 chicks during May—2% more than in May last year.

This was shown in a special monthly report from the U.S. Department of Agriculture which is designed to provide an early indication of potential broiler production some time away.

Pullet chick placements by these 10 breeders during the first five months of 1957 totaled 12,353,000 chicks, representing a decrease of 4% from the same period of 1956. Recent increases were not enough to offset earlier decreases from a year ago.

The totals reported by USDA include pullet chicks sold during the month, plus the number of pullet chicks expected from eggs sold the preceding month.

The 10 primary breeders included in this report account for a very large percentage of the total supply of replacement pullets for broiler hatchery supply flocks. Sales of replacement pullets by these breeders provide an indication of the potential number of pullets available for addition to hatchery egg supply flocks several months before the pullets actually move into the flocks.

Oregon Grower Paid For Destroyed Turkeys

PORTLAND, ORE.—An indemnity of $8,466.10 has been awarded Max Lyons, Sauvies Island turkey grower, by the state of Oregon following the destruction of 2,627 turkeys on his farm near here, the State Department of Agriculture has announced.

The flock was ordered destroyed by the state veterinarian following the discovery of ornithosis, a disease for which there is no known cure. Department officials destroyed the flock after appraisal of the birds. This was the only course open to eradicate and control the disease, officials said.

The state will pay Mr. Lyons at the rate of 80% of the appraised value of the flock, which was estimated to total $10,582 62.

BUYS FEED STORE

ALBIA, IOWA—John Pirnot has announced the purchase of Susin's Feed & Produce on Washington Ave.

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Live Rumen Organisms Added to Feed Bring Cattle to Top Condition Fast

ST. LOUIS, MO.–One of the most recent advances in dairy farming is the mixture of live rumen organisms into cattle feed. Immediately dehydrated after removal from slaughterhouse animals, these live rumen organisms remain completely dormant until fed to live animals. After feeding, they go to work instantly.

Digestive troubles always result in decreased milk production. Scours, loss of appetite, "lost cud" and other difficulties make production drop rapidly. Tests prove that with the feeding of live rumen organisms, digestion improves, full feed utilization is assured and milk production increases as much as 3 to 8 pounds a day until the maximum is reached.

Cows recovering from milk fever, ketosis, mastitis and retained afterbirth, also make a faster return to health when fed rumen organisms daily. This is because the rumen bacteria lost during the disease period must be replaced before complete recovery is possible.

To supply the dairy market with a rumen organisms product, the Dr. LeGear Medicine Company of St. Louis, Missouri, developed NU-CUD. Because NU-CUD is highly palatable, it increases feed consumption immediately. It also saves weeks of costly milk feeding–calves start eating solid feed in just 10 to 14 days when they are given NU-CUD. The Dr. LeGear Laboratories report bulk mixing of this new product is fast and easy.

Beef Cattle Go from Range to Full Feed in 8 to 12 Days

ST. LOUIS, MO.–Fast conversion from grass to grain is now possible with Dr. LeGear's new rumen product, Bovextra. In 8 to 12 days, complete conversion is made–cutting 2 to 3 weeks off marketing time. Bovextra also insures uniform marketing–slower cattle fatten faster with the help of Bovextra. This new product is conveniently packaged for the feed mixer in 50 pound bags.

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Challenge to Hog Men in Keeping Pace Pointed Out

PLEASANT PLAINS, ILL.—W. T. Diamond, secretary-treasurer of the American Feed Manufacturers Assn., called attention last week to the challenge which hog producers face in trying to keep pace with the poultry meat industry.

Mr. Diamond was one of the speakers at the "Operation ProfiTopper," held near here by Merck & Co., Inc., to show the value of feeding fortified swine feeds all the way from weaning to marketing and not withdrawing feeds fortified with antibiotics and B-vitamins when the animals reach 100 lb. (A report on the findings in the study appeared in the June 22 issue of Feedstuffs.)

Mr. Diamond told producers that researchers and organizations like Merck and the feed industry have marked the way for more efficient and profitable pork production. And it is virtually the same basic story presented over and over to poultrymen.

"As we analyze the nationwide picture and see the practical application of new findings in swine feeding," Mr. Diamond said, "I wonder whether the improvement in pork production efficiency is such that the hog man can keep pace with the highly competitive poultry meat industry? This certainly is one of the big challenges the pork producer must meet.

"You may wonder why I should talk about progress in poultry production to a group of hog men, but commercial poultry production — broilers and turkeys especially — has become firmly established as a business proposition. . . . Most of our broilers are raised on a mass production scale. With modern equipment, one man can care for 40,000 birds and have a complete turnover four times a year.

More Commercial

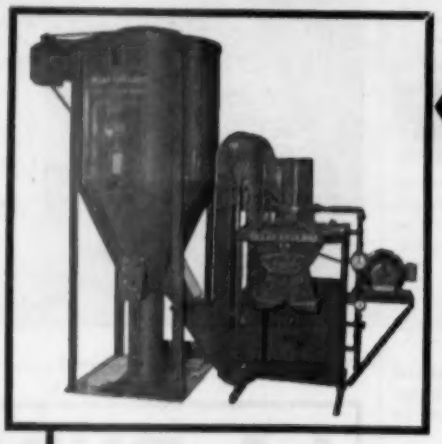
"A pork producer would have to market 2,400 (200-lb.) hogs annually to produce the equivalent in pounds of meat. There are growing signs hog production may become more commercial—following the pattern established by broiler growers and more recently by cattle feeders in some areas."

Mr. Diamond first noted the feed industry's service to agriculture and its part in helping farmers achieve maximum production of human food at a minimum cost.

He pointed to the trend among better hog men to farrow more pigs per litter and grow them more efficiently and profitably. But, he said, many producers are not keeping pace.

Mr. Diamond went on to tell of college and industry research which has helped bring the tremendous progress in agriculture, and he presented information showing the large

FIELD DAY—In the first photo, Dr. Alexander Zeissig, director of veterinary research, Merck Sharp & Dohme Research Laboratories, presents data from a demonstration showing the value of continuing to feed fortified rations to pigs all the way to market weight. The findings were presented at "Operation ProfiTopper" field day held by Merck & Co., Inc., near Pleasant Plains, Ill. In the second photo, Don Guthrie (left), Moorman Manufacturing Co., Quincy, Ill., and John Humes, Arcady Farms Milling Co., Chicago, compare notes on the event.



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Millers use these Portable Mixers as a standby unit to blend materials no other mixer could handle. Also for delivery of bulk feeds to farmers' bins or feeders.

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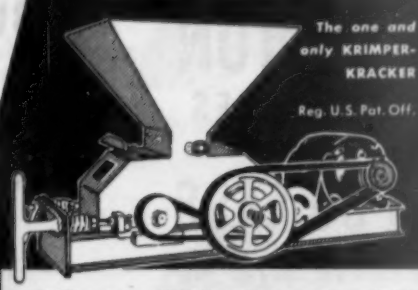

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Box F.H. 185 Bonner Springs, Kansas EST. 1894

volume of applied research conducted by industry to follow up other studies.

He told producers that when they buy a bag of feed today, they are buying a highly complex combination of precision-blended nutrients, including the important B-vitamins and antibiotics.

"And," he said, "in the final analysis, the price you pay for these nutrients is not of primary importance—it's the return above feed costs that counts. Competition among manufacturers is so keen that, among ourselves, manufacturers will keep the price closer to rock bottom than many of you might expect."

Another speaker at the field day was Dr. D. E. Becker of the University of Illinois, who cited earlier Illinois tests showing that the trend towards more soybean meal in hog rations, with a subsequent decrease in alfalfa meal and other vitamin sources, makes supplementation very important.

Visitors Tour New Plant of Illinois Farm Supply Co.

SPRINGFIELD, ILL.—The Illinois Farm Supply Co. was host to about 100 feed company salesmanagers, railroad officials, ingredient, bag and equipment suppliers June 21 on a tour of its newly completed Springfield feed mill.

The visitors were conducted in groups through the office, the modern testing laboratories, unloading, loading and warehouse facilities and all segments of the mill itself. The plant was in operation, and the visitors were able to view all operations from top to bottom.

Following the plant tour, the guests were entertained at a social period and buffet luncheon at the Elks Club in downtown Springfield.

Illinois Farm Supply Co. staff personnel serving as hosts were: E. V. Stevenson, assistant general manager; W. G. Cole, manager, feed division; E. C. Davis, director of manufacturing; William Brooks, manager of the Springfield mill; W. W. Whitlock, director of quality control; Chester Berg, manager, transportation division; Les Painter, fleet superintendent; Guy Baxter, director, transportation; Robert Graves, assistant director, transportation; Thomas Mulligan, chief accountant; C. E. Alexander, director of sales; T. L. Davis, director of sales services; Howard Duffin, art director; E. G. Young, buyer, feed division; Mel Jurgens, assistant buyer; George Hawkins, feed sales manager; Brian Grant, promotion and education; Thomas King, nutrition and research; Robert Holmes, operations manager; Jack Dorward, specialty products buyer; and the following district sales managers: Robert Garday; Glen Hines; Brad Quincy; W. Randles, and Charles Sloan.

The Springfield mill, with a projected annual production capacity in excess of 100,000 tons, is the third "FS" feed mill in Illinois, the others being located at Benton and Mendota. Illinois Farm Supply Co. has 100 member-dealer outlets in Illinois, 84 of which handle feeds, petroleum and/or fertilizers and the remainder either petroleum or fertilizer.

The new Springfield mill was designed by Paul Berg, mill engineer, Fort Wayne, Ind. The general contractor was J. L. Simmons & Co., Springfield.

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In every broiler area, results in commercial operations are proving daily that the products of Nichols research and Nichols breeding program are your best assurance of getting the most from every ton of feed.
Chicks from Nichols females are available in every broiler area. Ask for them by name.
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EXETER, NEW HAMPSHIRE

Turkey Groups, College Cooperate in Study of New Disease Problem

MOUNT MORRIS, ILL.—The National Turkey Federation, Utah Turkey Federation and Utah State University are cooperating in a research program to find control measures for an old disease that is threatening the turkey industry, the NTF said this week.

The disease is becoming a serious problem in such diverse areas as Utah, Minnesota, Washington and California, the federation said. It is caused by staphylococci bacteria. This organism is commonly present in the soil, but it is not known for certain that infection comes from the soil.

"Chickens, geese, ducks and turkeys are affected by the disease," the NTF said. "But diseased turkeys do not respond to the same treatments found successful with chickens. Staphylococcosis infection becomes most serious in turkeys a week or two after birds are transferred from brooder houses to the open range. The disease continues in serious form for five or six weeks and then gradually subsides. Losses range from 5 to 20% of the turkeys. Much of the death is in older birds so the losses are economicaly serious. The cash value of turkeys lost in Utah from the disease in 1956 exceeded $250,000.

"So far, the disease has been artificially induced only by intravenous inoculation with the organisms. Consequently, one important problem needing immediate attention is to determine the way in which the organism is naturally transmitted and the portal of entry into birds. More information is also needed about the causative organisms and the influence of nutrition and management practices on the spread of the disease."

Utah Agricultural Experiment Station has studied the problem during the past 13 years. In recent years, turkey losses have increased, and the disease has reached serious proportions in wider areas. A more intensive research program is seriously needed.

Experiments now under way in the cooperative research program involve about 4,200 turkeys in two widely separated flocks. Feed and management practices are being varied to simulate those conditions where the disease is serious and those most likely to lead to disease susceptibility. Veterinarians and bacteriologists are studying the development and effects of the disease and are isolating and studying the characteristics of all the organisms involved.

Turkey federation officials said the cooperative studies should provide more information on the mode of transmission of the disease and on the causative organisms. Controlled studies should indicate which management practices give protection from the disease.

Officials said the principal antibiotics available will be studied as possible curative or protective measures.

C. C. Lawrence

JOINS BURRELL CO.— C. C. Lawrence, formerly branch manager for the Oliver Corp., St. Louis, has joined the staff of James H. Burrell & Co., Inc., St. Louis business management consultants. He has spent 28 years with Oliver in various management capacities. Mr. Lawrence will take a short training period with the firm before beginning his duties.

Livestock Field Days Planned for Kentucky

LEXINGTON, KY. — Livestock technique, ranging from stilbestrol implants in cattle on winter feed to new meat research, will highlight two livestock field days sponsored by the Kentucky extension service and experiment station personnel.

The first day will be July 17 at the experiment station farm here, with the second set for July 19, at the Kentucky experiment substation farm at Princeton.

The general program will include tours of livestock research projects, printed reports on the year's research activities and a series of short talks by research workers and farmers as well as meat industry representatives.

A free lunch will be served both days.

NOW...

Here's the background to this amazing story of achievement: A. A. Camp, agricultural experiment substation superintendent, worked four years to find a treatment for birds suffering from costly field hemorrhagic-anemic syndrome. Read below how he did it.

A NEW TREATMENT* for hemorrhagic-anemic syndrome

(Reprints of complete article free upon request).

As reported in FEEDSTUFFS, *June 8, 1957 issue.*

* by feeding liquid FISH SOLUBLES, KELP and certain added materials

Philip R. Park, Inc., salutes the original research showing additional benefits of condensed fish solubles and dehydrated kelp in the treatment of hemorrhagic-anemic syndrome.

To treat birds suffering from field hemorrhagic-anemic syndrome, Camp initiated field test feedings. Condensed fish solubles at 5% level and dehydrated kelp at 1%, with added copper, cobalt and manganese, were superimposed on standard rations. All proper scientific controls were observed throughout. Camp's spectacular results are seen in the tabulation below. Disastrous "field hemorrhagic-anemic syndrome" may be on the way out.

Philip R. Park, Inc., were the first to use dehydrated kelp as a feed ingredient and pioneered the use of condensed fish solubles (U.S. Patent 2,188,008 — Lassen-Philip R. Park, Inc.—1937-1940).

TABLE 1 SUMMARY OF TESTS CONCERNING TREATMENT OF THE HEMORRHAGIC-ANEMIC SYNDROME WITH CONDENSED FISH SOLUBLES (5%) AND 1% DEHYDRATED KELP (MACROCYSTIS PYRIFERA) WITH ADDED COPPER, COBALT AND MANGANESE.

Test Period (2-1-57 thru 4-21-57)

Farm No.	No. of Chicks on Farm	No. of Chicks Treated	Age When Treatment Started	Length of Treatment	Wt. of Birds Sold — When Control	Wt. of Birds Sold — When Treated	Feed Conversion — Control	Feed Conversion — Treated	% Mortality — Control	% Mortality — Treated	% Nonsal'ble — Control	% Nonsal'ble — Treated
1	8,500	6,000	6 wks. 2 days	14 days	2.82	3.01	2.71	2.50	10.8	4.2	2.4	0.10
2	4,500	3,000	5 wks. 6 days	10 days	3.01	3.14	2.55	2.42	7.9	3.1	2.8	0.10
3	21,000	15,000	6 wks.	8 days	2.98	3.08	2.51	2.42	8.1	3.2	2.0	0.25
4	16,000	10,000	4 wks. 5 days	7 days	3.04	3.11	2.47	2.40	6.5	4.4	4.1	0.50
5	42,000	32,000	6 wks. 1 day	10 days	3.14	3.27	2.41	2.32	7.5	3.1	3.6	0.20
6	12,000	8,000	5 wks. 4 days	8 days	3.01	3.14	2.42	2.30	9.9	5.2	4.5	0.75
7	8,500	6,000	4 wks.	8 days	2.87	2.97	2.51	2.40	8.8	4.6	6.7	1.00
Total:	112,500	80,000										
Ave.	16,071	11,429	39 days	9.29 days	2.98	3.10	2.51	2.40	8.50	3.87	3.73	0.41

NOTE: In five out of the seven farms, the non-treated birds were docked either 1c or 2c per lb. due to their inferior market quality.

NOTE: Six other farms were treated (42,000 birds) and the producer reported that the treated birds responded so well that they then treated control birds, therefore no control data could be obtained.

For complete data, analysis and product description, write . .

Investigate these products:
ManAmar Feed Supplements
Super Neptune
Neptune Mineral Concentrate
Condensed Fish Solubles
Manasol — Korsol
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Assure even distribution of salt throughout your feeds.
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Alfalfa Aphid Less Active This Year

WASHINGTON — "Comparatively small" numbers of spotted alfalfa aphids were active through May, the U.S. Department of Agriculture, reported last week.

By June 1 the pest had not reached the damaging proportions that it had by the same date in previous years since its discovery in the U.S. in 1954.

In the Southwest, where the aphid was first found, southern New Mexico has had light to heavy infestations this year.

Utah reported damaging populations in late May, according to USDA's Agricultural Research Service cooperative economic insect reports. Insecticidal treatment was necessary in Nye County, Nevada. Nebraska's first spotted alfalfa aphid of the year was taken May 23.

The aphid first crossed the Mississippi River eastward last year. Up to early June, 1957, aphid numbers in infested eastern states were generally light. Some honeydew, which the aphids secrete on alfalfa, was reported from areas of North Carolina.

Arnold W. Wagner

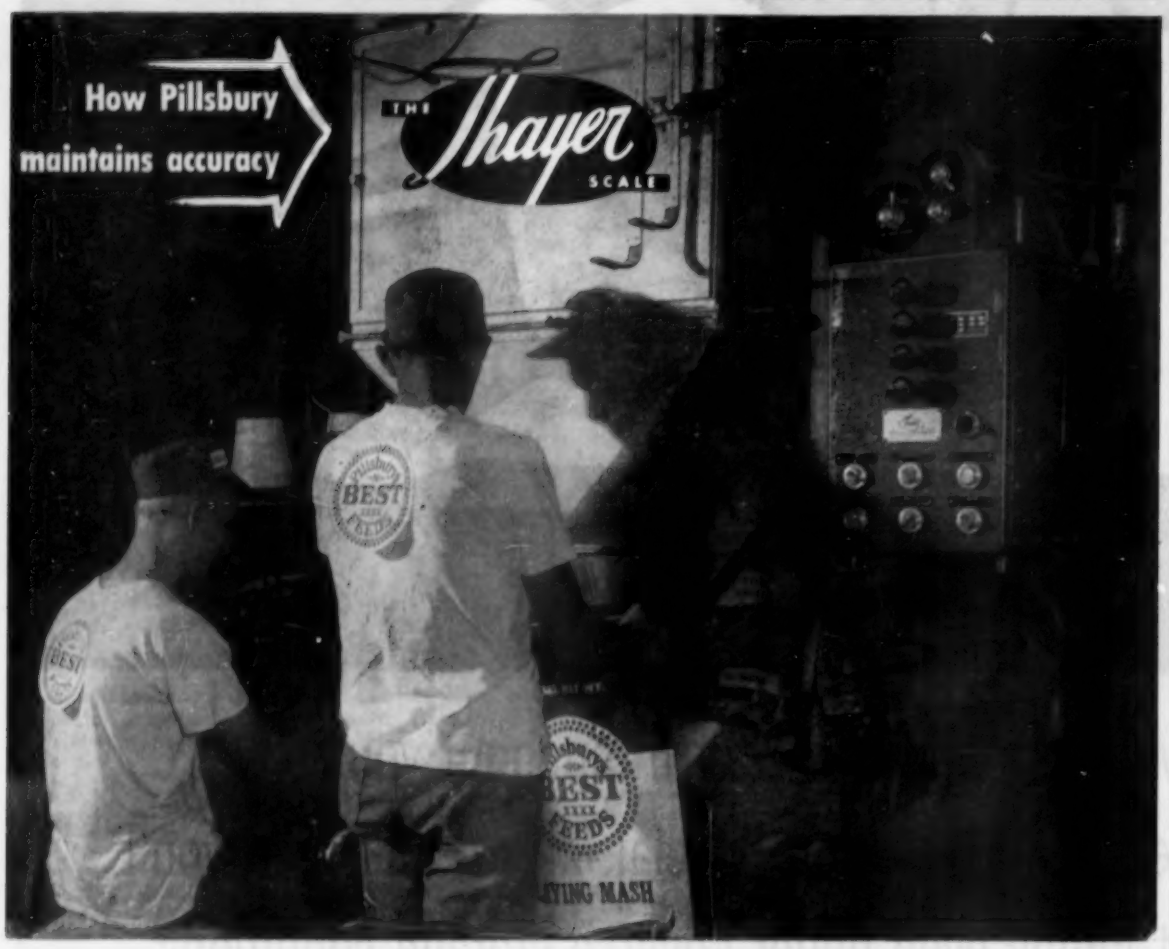
NEW PRESIDENT—Arnold W. Wagner, General Mills, Inc., grain manager at Los Angeles, was named president of the Los Angeles Grain Exchange at the recent annual meeting. He has served as a director and vice president of the exchange, and has been in the grain business for General Mills on the West Coast for the past 10 years. He is a graduate of the University of California.

Kansas Group Buys Land for Elevator

KANSAS CITY—Purchase of 70 acres of bottom land on the Missouri River by John J. Vanier, president of the Western Star Mill Co., Salina, the Salina Terminal Elevator Co., and associated firms, has been announced. The plot is on the Missouri Pacific Railroad about half a mile northeast of Wolcott, Kansas, near Kansas City.

Application has been made for a permit for construction of extensive wharf facilities on the river preliminary to building of a terminal grain elevator. Mr. Vanier said that specific plans for the storage facilities have not yet been made.

The Salina Terminal Elevator Co. now operates the Alton elevator in Kansas City, having a capacity of 1 million bushels, as well as other facilities at Salina, Kansas and Enid, Okla.



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St. Joseph Feed Club Elects Ellary Bennett

ST. JOSEPH, MO. — Ellary Bennett, Chesmore Seed Store, has been elected president of the St. Joseph Feed & Seed Club. Other new officers are Don Spalding, St. Joseph Stock Yards Co., vice president; Harold J. Schmitz, Station KFEO, treasurer, and Webb Embrey, Chamber of Commerce, secretary.

Joe Joffe, Dannen Mills, Inc., was elected to complete Mr. Spalding's term on the board of directors. Other directors elected included Dale Alley, Alley Feed Co., and Stan Aufdemberge, Thompson-Hayward Co.

HOLDS OPEN HOUSE

PAOLA, KANSAS — Open house was held recently by the Buchman Seed & Feed Co. here celebrating the opening of a new office building for the firm. The new 20 x 44 ft. air-conditioned building and the entire plant were open to visitors.

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UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

This Fall's Pig Crop

One report attracting attention among feed men is the survey used to predict the size of this fall's pig crop. This report is based on breeding intentions for the fall farrowing season. It provides feed manufacturers with one indication of the potential size of the hog feed business they can expect during the last couple months of 1957 and the first six months of 1958.

Because of the importance of the farrowing estimate, it is well for you to know how accurate these estimates have been in the past. Of course, the word "estimate" means just that. Many things affect the size of a pig crop after farmers report their plans.

As a guide as to what to expect, we have prepared Exhibit 1. It will give you an idea how close the June estimates of sows to farrow in the fall come to the number reported as having farrowed. This chart is similar to those which have appeared in this column in the past. Though at first glance it may look complicated, it is an illustration easy to use once you learn how. It isn't likely to go out of date in the near future because it records past history, and for this reason you may want to clip it for future reference.

Here is how to read Exhibit 1. First find on the bottom scale the estimate made in June of the number of sows to farrow this fall. (Feedstuffs, June 29.)

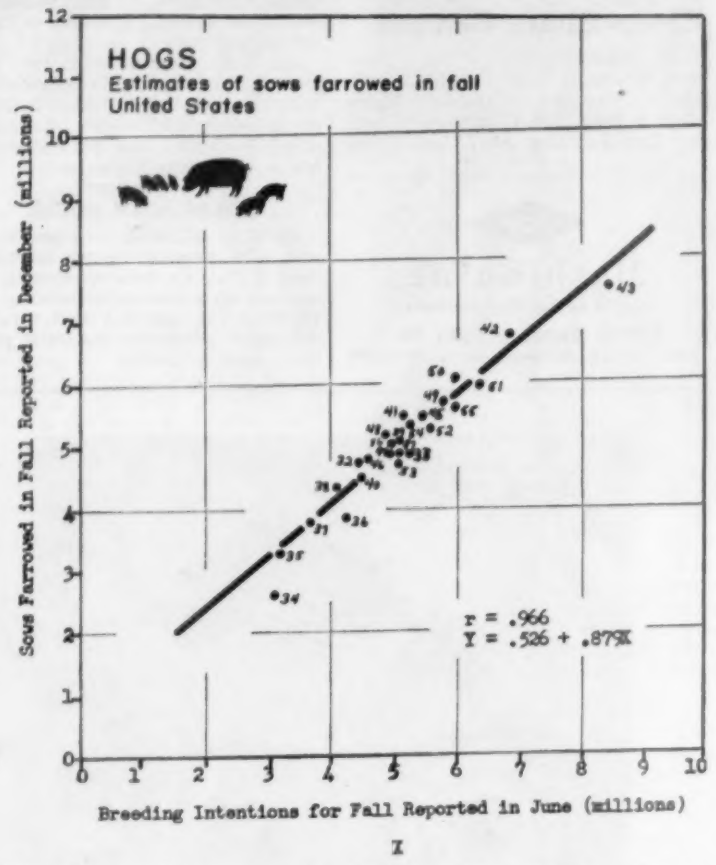
Next you read up to the solid line. From this point you read directly across to the left hand scale of the number of sows that most likely will be farrowed if past averages prove to be correct.

Each dot on the chart represents one year. The year is indicated by the number alongside the dot. If each year measured to the average, all the dots would be on the solid line. Also, the solid line would run in a slope at a 45° angle with one end of it being at the lower left hand corner of the chart. As you can see, all the dots are not on the solid line nor does the solid line run through the lower left hand corner.

This means then that considerable changes were made in farmers' intentions during a number of the years. The estimate, of course, is a good indicator of the trends because as you can see, the dots are not too far away from the solid line during most of the years. However, there are some discrepancies which you should take into account in planning your operations and be prepared to meet some changes which could take place in the size of the fall pig crop.

These estimates are made by the Crop Reporting Board of the U.S. Department of Agriculture and are available to anyone who wishes to request a copy from that agency.

EXHIBIT 1. Hogs: Estimates of sows farrowed in fall, U.S., 1932-56.



California Beef Situation Reported

BERKELEY, CAL.—No accumulation of well-finished steers or heifers is to be found in California feed lots, reports L. W. Feldmiller, manager of the Valley Livestock Marketing Assn., which has yards at South San Francisco, Stockton, and Dixon, Cal.

If midwestern beef supplies do not affect the situation, Mr. Feldmiller foresees a continuance of an active market condition on these cattle. California feeders, he said, are watching the midwestern market closely at present, for with only minor price declines on live choice cattle in the midwest, dressed beef rolls into California in considerable volume and adversely affects the local market.

Sheep continued to reach the South San Francisco and Dixon markets in sizeable numbers during the past week or two. Most of the animals came from the north coast with a few from Oregon. Action on the better kinds of feeder lambs continued to be good, with price levels unchanged.

Sale of many choice clover-fattened lambs in the Dixon area opened up outlets for additional feeder lambs to replace the ones shipped. The majority of the lambs sold went to Los Angeles area packers.

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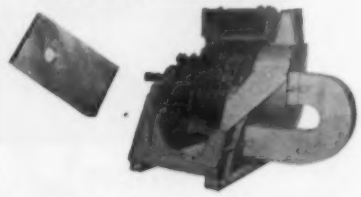

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A Little Southern Hospitality

By Al P. Nelson

The telephone in the Frank Jeske farm rang shrilly. Buxom Mrs. Jeske wiped the flour from her hands, then picked up the receiver. A voice, a very familiar voice, said,

"Hi, Olga, how are y'all today?"

Mrs. Jeske frowned. "Myrtle—Myrtle Hammel! Is that you talking?"

"Why of course it's me, honey chile. Ah's feelin' fine. How are y'all?"

Mrs. Jeske snorted. "Why, Myrtle, what in the world is the matter with you, talking like a southerner? If I were you I'd keep that vanilla bottle where it belongs—on the pantry shelf."

There was a sharp silence. Then, "Well, of all—ah just won't let it disturb me today. Olga, you missed somethin' by not goin' to Joe Brooks Southern Hospitality Days. Honestly, it's so interestin'. You can still go tomorrow. Try to go in the afternoon. That's when the most is goin' on. Talk about crowds."

"I read about that," Olga said. "Joe had a big ad in the paper. But Jim and me we ain't got time for such things. We got farm work to do."

"Oh, but this is different, Olga. It makes you feel so good. You walk up to the front door of Joe's salesroom and there's that handsome Smiley Johnson, all dressed up like a southern planter, his dark eyes on you and his smile a flashin'. Then he says: 'Allow me, ma'am' and opens the door. Honestly, I got goose pimples all down my spine."

"Myrtle! We're on the phone. Someone may hear you!"

Joe Is Smart

"Well, what if they do? I like courtesy. I never thought men could be so nice to women. Makes me feel all warm inside. I wish Halvor would be nice to me like that. Olga, that Joe Brooks is smart. He knows people like to be treated swell, and this sales idea just shows how it can be done. I won't be the same woman."

"Didn't he and his wife take a three weeks trip to Florida this winter?" Olga asked. "That's where he must have gotten the idea maybe."

"They did, Olga, and you know Mary is all dressed up like a southern belle, too. Looks real pretty in that hoopy skirt, fluffy white waist with the high neck. And say, the jewels she's got in her hair—but I bet they came from Bernstein's dime store. You can get such bargains these days, and they look wonderful for a while."

Olga coughed. "I never was one to dress up much. I never have time. I have so much work to do."

"Oh, you owe it to yourself, darling, to really doll up now and then. I'm going to, and believe me, I want Halvor to kiss my hand—at least once a month."

Olga gasped. "Did—did Joe Brooks kiss your hand?"

"No, but he was so sweet and paid so much attention to me. So did all the other clerks. You know, Olga, I really felt important. And then they showed colored slides of Joe and Mary's trip down South, negro cabins, cotton fields, flowering trees and shrubs and gardens. Oh, it was beautiful. And a couple of Joe's men, all dressed like southern darkies showed us to our seats and gave us perfumed fans."

"Perfumed fans!" echoed Olga. "Oh, my Heavens."

There was a click on the phone, but the women paid no attention.

Southern Hams, Too

"Then they had about ten hams hanging from the ceiling," Myrtle Hammel rattled on. "Seems Joe bought them in Tennessee. They age them down there by dipping them in brine and hanging them up to cure. There was mold on some of them, but Joe says that makes them taste better. He was selling them for $1 a pound. Oh, Olga, there's lots of other things going on down there. Why don't you go down and see for yourself?"

The phone clicked again. "Ladies," a tired voice said, "I want to put through a call to a veterinarian. I got a sick bull. You've been talking a half hour."

"We have not!" put in Myrtle Hammel indignantly. "Not more than 20 minutes. You men are always stretching things. And, Olga, Joe and Mary have some special treats, things like Louisiana coffee, cornbread, hominy, and there is blackstrap molasses to put on your bread."

"Blackstrap molasses on bread!" gasped Olga. "Ugh!"

"Well, it's a southern sale and anything goes, I suppose," Myrtle gushed. "That's part of their fare down there, I guess. Honestly, Olga, I do think those southerners have something we haven't got up nawth. They take things so easy, they are so nice and courteous to everybody, and they seem to get a lot done. They aren't like us rushing every day until we are too tired to enjoy anything."

The phone clicked again. "Listen, I got a sick bull. He's too big to load in a cart and haul to the vet. Will you women quit your yackitty-yacking and lemme use the phone?"

"Well!" Both women said the same word at the same time, with the same emphasis.

"You see what I mean, Olga," Myrtle said pointedly. "Our men up here have no manners, no respect for women. They need a lot of that southern courtesy, the brutes." The receiver clicked down somewhere. "Well, I won't let him spoil my day. Don't miss Joe Brooks' Southern Hospitality Sale, darling."

"Oh, my, now you made me want to go," Olga complained. "You should see the ironing and mending I got to do. And I've got to bake two coffee cakes for the Grange meeting tomorrow. And I've got strawberry jam to make."

"Honestly, I do hope when you go, there's some of those old maids in buying dog or cat food," Myrtle added.

"Why?"

"Oh, after Joe's employes give 'em that courtesy treatment, the old maids go absolutely kittenish. They waddle around and roll their eyes and you ought to see the bachelor farmers eye them up."

"No? Oh, I wish I could go today, but now I'll have to wait until tomorrow. I would never make it in a half hour before closing. Here comes Frank. I'll call you tomorrow when I get back."

There was a click on the phone a few minutes later. "Listen, ladies," a tired voice said, "my bull is very sick, and—" he broke off, noticing the silence, which was there like a blanket. "Holy smokes!" he said. "FINALLY!"

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Associate Member Plan Adopted By Swine Council

GRUNDY CENTER, IOWA—The National Swine Growers Council recently announced an associate membership schedule as a guide for companies interested in giving financial support to the council's program for improving swine and helping the swine industry.

The council suggested the following scale for individual businessmen, companies and organizations outside the swine producers' associations:

Those operating on a partial state basis, $25 a year.

Those operating on a state-wide basis, $50 per state, with a limit of $500 for operations in 24 states or less.

Those operating on a nation-wide basis, $50 per state, with a $1,000 maximum.

The executive committee also established a policy of ordering one-year subscriptions to the National Hog Farmer, monthly publication, for contributors of $5 or more to the council. This will apply to companies paying associate member dues.

Inquiries about the national council program, the council said, should be directed to Keith E. Myers, executive secretary, Box 241, Grundy Center, Iowa.

New Member

Meanwhile, the council also announced that the Golden Sun Milling Co. of Estherville, Iowa, had become the second firm to hold an associate membership. A check for $100 was sent to the council.

Herman Jensen was quoted as saying: "We think you have an excellent opportunity to do a great thing for the swine growers, and if this money is properly spent, we shall be more than happy to make a contribution next year for whatever amount we can afford at that time. We are not a very large operator as compared to some, but I made the suggestion that we do business in parts of two states and perhaps $50 per state would be a fair contribution."

The company serves 250 dealers in Minnesota and Iowa.

Wisconsin Studies Hormones for Turkeys

MADISON, WIS.—J. L. Adams of the University of Wisconsin reported recently on studies of hormones for turkeys.

He said that stilbestrol pellets given at 22 weeks produced more consistent results than other forms of hormones tested.

Earlier studies, he said, indicated that stilbestrol given to large-type turkey broilers improved their fattening ability considerably and made for a more delectable looking bird.

New research, according to Dr. Adams, shows that stilbestrol implanted as a 15-milligram pellet under the wrinkled skin of the turkey's head gives best results.

In various groups of turkeys, both hens and toms, Dr. Adams injected stilbestrol either as a paste or as a liquid. He gave another group dienestrol diacetate, estrogenic hormone, in their feed. At the rate used in this trial, he said, the latter lowered feed efficiency and only slightly improved the fat grading of the carcasses.

Dr. Adams said he recommended use of stilbestrol pellets in production of broilers of either sex from the larger breeds of turkeys and in production of large turkey roasters.

DANNEN SALES MEETING SPEAKERS—More than 100 persons attended the annual Dannen Mills summer sales school in St. Joseph, Mo. Sessions the first day were held at the Dannen research farm. Training courses were conducted by Dannen officials and representatives of the Dale Carnegie Institute at Kansas City. Shown above, left to right, are Robert Waite, vice president of the feed division; Tom Norman, head of Dale Carnegie Institute, Kansas City; Dwight L. Dannen, president of Dannen Mills; Bob Snyder, advertising manager, and Fred Summers, sales manager.

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REPORT TO THE FEED INDUSTRY

Gets 3.03 lbs. daily gain . . . high yield and carcass quality with 'Stilbosol'

Montana meat-packing firm is early user of 'Stilbosol' in cattle rations . . . well pleased with top gains, high dressing percent, and excellent carcass quality.

by Eugene S. Hahnel

H. W. Larson has been in the meat-packing business over half a century. His first plant still stands. . . . "It was a sturdy tree in the hills near Helena, where I hung up my first beef in July, 1906, to supply mining camps during Montana's early rough-and-ready mining days."

Larson is still active in the management of his modern plants at Helena and Great Falls, and also devotes much time to his company's beef-feeding operations. His son, J. E. Larson, keeps the records and supervises feeding.

Reporting on one group of 34 mixed steers fed a ration of rolled barley, beet pulp and supplement fortified with 'Stilbosol,' J. E. Larson said, "These cattle averaged 3.03 lbs. daily gain over a 93-day feeding period. We noticed that they were very quiet in the feedlot. We have found no difference in the dressing percentage or killing quality of our cattle since going on 'Stilbosol' feeds."

Henry Enochson (right), feed manufacturers' representative, and J. E. Larson discuss ration being fed. The Larsons appreciate modern advances in feeding. "Feeding of 'Stilbosol' has been a great thing for the cattle-feeding business," the younger Larson says.

H. W. Larson, veteran feeder and packer, and his son, J. E., examine carcasses of some of their own 'Stilbosol'-fed beeves. This unusual feeder-packer story will be read by cattlemen in Lilly advertisements in 20 national and regional farm magazines.

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Suggestions for Retailers

Using Nutrition to Build Sales

● **By Myron M. Carpenter**
Peavey Feed Mills

EDITOR'S NOTE: When a feed man sells a bag of feed, he is actually selling nutrition that builds meat, milk and eggs. This means that retailers and others in direct contact with feeders must have a good understanding of fundamental nutrition. As Mr. Carpenter points out in the accompanying article, dealers have to be better informed than their best customer, and customers are becoming better informed as farm operations become larger and more specialized. The retailer of the future will not only have to have better physical facilities; he'll have to be better equipped mentally. Mr. Carpenter—in reviewing some basic nutrition information and showing the value of balanced and high quality feeds—provides some valuable help and suggestions for any feed man trying to do a good job of selling nutrition to the feeder. And when he does a good job of selling nutrition and helping the feeder get the nutrition out of the feed bag, he'll be building his tonnage. This article is from a talk at the Central Retail Feed Assn. convention in Milwaukee. Mr. Carpenter is director of research for Peavey Feed Mills, Minneapolis.

Because of the important part that nutrition plays in the sale of feeds, it is necessary that dealers and dealer employees have a good understanding of the fundamentals in nutrition. This should form the foundation on which newer developments of nutrition are laid layer by layer as they are unfolded.

Just how much the dealer should know about nutrition is a point of question. Some feel dealers should know only how to use feeds and supplements, but not the reason why. Others feel dealers should know all the facts and details, going so far as to know how much of each vitamin or mineral is required by all classes of livestock and poultry during each stage of life. Thorough knowledge of the names and requirements of the various amino acids is thought by some to be a necessity.

Myron M. Carpenter

My opinion is that dealers should know enough about nutrition so that they will have confidence in talking with their customers. It isn't necessary that they know all the details, but they should know where to get them. Answers to technical questions can be obtained from the nutrition department of feed manufacturers or from universities.

One point is certain, and that is that dealers have to be better informed than their best customer, and the best customer is becoming better informed as his operations increase in size.

Specialization

We are all aware of the transition that is taking place on the farm today. The number of farms is decreasing each year, and farms are getting larger.

There is no better example of specialization than what has taken place in the turkey industry during the last several years. A few years ago the average flock was 1,000-2,000 birds. Today 5,000-10,000 is the average, and even this is giving way to larger flocks.

This movement toward bigger operations has increased the importance of our customer. Each year our feeders are spending more money

Lime Crest Laboratory Experiments

PROVE CDP BETTER PHOSPHORUS SUPPLEMENT FOR GROWING CHICKENS

Purpose of Experiments

(1) To compare the efficiency of utilization of phosphorus in
(a) 17% CDP (Coronet Defluorinated Phosphorus) and
(b) ARG DCP (analytical reagent grade dicalcium phosphate)
by growing chickens.

(2) To compare the quantities of fluorine in the bones of chicks that have received 17% CDP with those that have received ARG DCP

(3) To compare the quantities of both calcium and phosphorus in the bones of chicks that have received 17% CDP with those of chicks that have received ARG DCP.

Summary of Results . . .

● The phosphorus in CDP (Coronet Defluorinated Phosphate) is 105.93 ± 4.26% as available as that in ARG DCP (analytical reagent grade dicalcium phosphate, the theoretically perfect phosphatic mineral supplement produced for laboratory purposes, assumed to be 100% available).

● The chicks grew equally well to the age of three weeks and nine weeks, whether the source of the phosphorus in their diet was CDP or ARG DCP.

● The bone ash of the chicks receiving CDP was greater at both 3 and 9 weeks of age. At 9 weeks, the average difference, although small, *was* statistically significant.

● At both three and nine weeks of age, the ash of the tibias of the chicks contained much less fluorine than is commonly found in the bones of chicks.

● Neither at three weeks nor at nine weeks did the source of phosphorus have a significant effect on the calcium and phosphorus contents of the ash of the tibias of the chicks.

GUARANTEED UNIFORM ANALYSIS

Phosphorus	Calcium	Fluorine
17.0% min.	34.0% min.	0.17% max.

Further Information on These Experiments Sent Free Upon Request. Complete Report Available.

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Although it's true NiCarb is the only coccidiostat that cuts mortality to ZERO, complete protection against coxy mortality is only one of the reasons for using a coccidiostat. Just consider the many other benefits:

BROILERS—NiCarb is such a superior coccidiostat and has suppressed the incidence of coccidiosis so widely that people have assumed a coxy-free condition exists.

Outbreaks of coxy in flocks protected with inferior coccidiostats prove that coxy is still present and ready to kill. However, mortality is not the most costly part of this situation. Ineffective coccidiostats permit unrecognized SUBCLINICAL coxy to steal valuable weight gains.

Contrast this picture with the top market weight, fine finish, and feed conversion of as low as two pounds per bird that can accompany the regular use of feeds containing NiCarb. These benefits are the real economic reasons broiler operators report—there's just no profitable substitute for feeds containing NiCarb.

REPLACEMENTS—Poultrymen can count on economic gains fully as great as with broilers.

NiCarb fed for first 12-16 weeks makes it possible for egg producers to house more and healthier pullets than ever before. By eliminating death losses, tissue damage and poor feed conversion, NiCarb cuts a slice off production costs that comes back in the form of juicier profits. Furthermore, exposed birds protected with NiCarb can develop a solid immunity that prevents them from being knocked out by coxy.

NiCarb can do so much to build brand loyalty for your feeds that it's most short-sighted to let unrealistic fears block your just due. Remember, NiCarb is no more difficult to handle in the mill than many other micronutrients, hormones, enzymes and antiworming agents. While NiCarb should not be fed to layers in production, even effects on layers can be completely and quickly reversed merely by withdrawing the drug. And as far as other farm animals are concerned, ordinary concentrations of NiCarb are harmless. Your own economic interest makes it obvious—NiCarb should be included in all your starting mashes and grower feeds. Merck & Co., Inc. Chemical Division, Rahway, N. J.

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NiCarb—a product of MERCK

America's No. 1 Coccidiostat

for feed. In 1949 they spent $780—in 1954 they spent $1,070.

The movement toward larger and more specialized operations has been necessary because margins have narrowed. To meet narrower margins, waste is being eliminated and fixed costs are spread over larger numbers, thus reducing the cost per unit of production. Therefore, with greater specialization has come more efficient production of meat, milk and eggs.

Efficiency

Nutrition has played a very important part in improving efficiency of production. A recent demonstration with broilers showed that today a 3-lb. broiler can be finished with only 7¼ lb. of feed. This compares with 10 lb. of feed in 1947 and 12 lb. in 1937. The time required to produce this broiler with a 1957 feed was 8½ weeks; with a 1947 feed, 11 weeks; with a 1937 feed, 13 weeks.

This progress in performance was due entirely to improved nutrition. Improvements have included the elimination of fibrous, low energy ingredients and the use of animal fat, drugs, antibiotics, arsenicals, methionine and unidentified factors. Greater knowledge of nutrient balance together with improvements in the quality of ingredients have all helped to put speed and efficiency into today's broiler feeds.

Some recent USDA figures point out that although there have been great strides made in the efficiency of producing food by the average farmer greater improvements are to come. They predict that soon a pound of broiler will be produced by the average feeder with 2.6 lb. of feed, a pound of turkey with 4 lb., a dozen eggs with 5 lb., a pound of pork with 3.2 lb., a pound of beef with 8.5 lb., and a pound of milk with 0.8 lb. of feed.

Nutrition to do a more efficient job is already in the modern feed bag, but the feed bag isn't getting out to the feedlots the way it should. It isn't getting to enough feeders and, in many cases of the feeders it's getting to, it isn't used in the right amounts.

Dealers have two responsibilities:

1. To themselves—winning the confidence of all their customers.

2. To their customers — helping them become more efficient by reducing their costs of production and showing them why and how to supplement their grain properly and realize more value from it.

Fulfilling both of these responsibilities will result in more sales. To accomplish this requires a good understanding of fundamental nutrition.

In this day of feed additives, there is a tendency to overlook the importance of the major nutrients—protein, energy, vitamins and minerals. By using proper amounts and balance of these basic nutrients, we get the bulk of the feed value out of grains and roughages.

Nutrition

Grains alone have only limited feeding value. The biggest asset of all grains is their energy content. Of the common feed grains, corn is the highest in energy, oats is the lowest.

Comparing the nutrient content of corn with the nutrient requirement of laying hens, we note that it fails in protein, the minerals calcium and phosphorus, and vitamin D and riboflavin. New corn may have sufficient vitamin A, but it is lost during storage, so old corn can be of questionable value in this respect.

Not only are grains low in protein, but the quality of the protein is poor. They lack a sufficient amount of the essential amino acids, the basic elements of protein, to make meat, milk and eggs efficiently. Protein quality or effectiveness is limited by the amino acid present in the least amount. A likeness would be that a convoy can travel no faster than the slowest ship. If it does, the slower ships are picked off one by one by the enemy.

Supplying sufficient protein is not a pocketbook problem with today's protein prices. High protein egg mashes can be made with little added expense. But if the requirements for the essential amino acids are not met, then the egg mashes can be expensive.

For example, when using meat scraps to balance corn for producing eggs, the meat scraps does a good job except for the two amino acids tryptophane and cystine. Because of these shortages, production would be held to about 65% of potential. Grain is wasted this way.

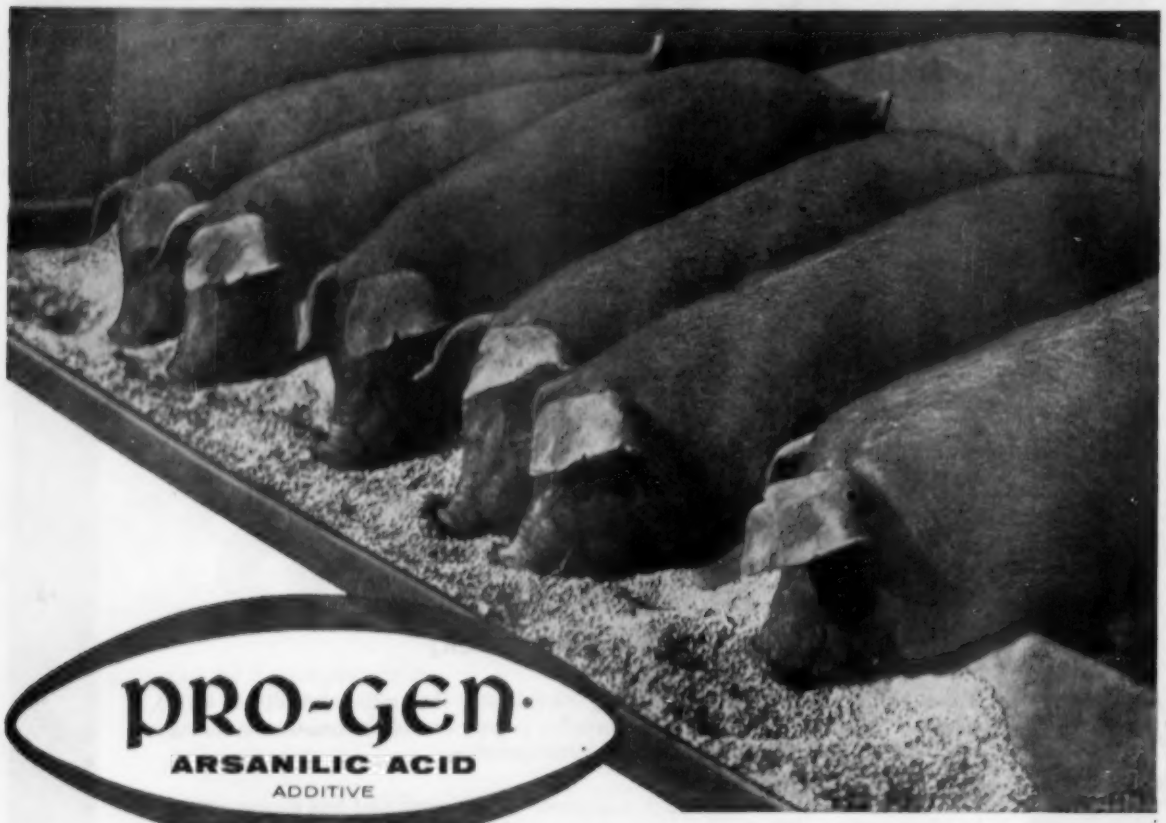
Supplying protein from other sources such as corn gluten meal presents a different amino acid picture, but there are still areas of deficiencies. In this case the amino acids lysine and tryptophane limit the rate of production. Single sources of protein don't satisfy amino acid requirements.

A properly balanced supplement containing more than one source of protein makes up the protein or amino acid deficiencies of grain. The long suits of several protein sources are combined with the result that all requirements for amino acids are met. Maximum production is then realized and the most eggs possible are obtained from the grain.

Demonstration

Corn, supplemented with all known required nutrients except protein and amino acids, of course, does not support good growth. We once set up a demonstration to show what happens when corn is not properly supplemented. The birds fed corn alone did not grow normally—they weighed only 80 gm. in 4 weeks.

Chicks fed sufficient protein (20%), but the supplemental protein supplied from only corn gluten meal, didn't do well either because corn gluten meal is nothing more



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than the concentrated protein of corn, which is deficient in certain amino acids.

A third group of chicks fed a 20% protein feed with the supplemental protien coming from meat scraps did a little better because the amino acid picture of meat scraps is more complete than that for corn gluten meal.

Combining these two sources of protein, corn gluten meal and meat scraps, didn't improve the performance. This is because the amino acid limiting growth is short in both of these ingredients. In other words, they don't supplement one another very well.

Using a combination of protein sources, with the principal source being soybean oil meal, all amino acid requirements were met and growth was normal. The chicks in this group weighed 445 gm. (or almost a pound) at four weeks.

Getting back to supplementing corn for producing eggs, not only are the requirements for protein and amino acids met by a good supplement, but so are the needs for the various vitamins and minerals.

With grain supplying the energy and the supplement making up the deficiencies of protein, minerals and vitamins, we have a balanced ration and the most is realized from the grain.

Soybean oil meal is cheaper per bag than a good supplement. The temptation of many feeders is to replace a bag of supplement with a bag of soy. Sure, the protein level is held, if not increased, but other nutrients (minerals and vitamins) are shorted because soy contributes low levels of these in comparison to a supplement.

Balance Necessary

In balancing grain no one nutrient is more important than the other. Good quality protein and the necessary minerals and vitamins must be present in proper amounts to get the most out of grain.

Take away even the tiniest nutrient, and gains and production are costly. The nutrient power of grains is poorly utilized, feed is wasted and profits shrink. Sometimes even complete failures will result.

You have seen many pictures of the disastrous results that occur when certain vitamins and minerals are omitted from the diet. For instance, chicks and turkey poults grow extremely slowly and even die if riboflavin is left out of the ration. Vitamin D, commonly known as the sunshine vitamin, can influence growth. Birds fed rations low in this fat soluble vitamin not only have poorly developed bones but also grow at a reduced rate. Sows fed diets low in vitamin A produce weak litters and livability is poor. Surviving pigs are not thrifty and the cost of production increases markedly. Strong pigs at birth have a better chance of reaching market and they get to market sooner using less feed.

The use of antibiotics and other drugs increases the productivity of livestock and poultry. These substances, however, do not eliminate the need for any of the essential nutrients. They make the job of raising livestock and poultry easier, but they do not take the place of good nutrition and management.

Complete nutrient failures are the exception rather than the rule. These, however, are not the costly losses to the feeder. The greatest losses lie in the areas of twilight nutrient inadequacies. These shortcomings show up as poor use of feed, slower growth or production and increased production costs.

A good example of a border-line or twilight deficiency is the barred feathering of turkey poults fed a ration low in the amino acid lysine. It isn't uncommon to see this condition in the field where poults have been fed grain the first few days to help start them eating. It's also been seen where poults have gorged themselves with shavings instead of feed.

All nutrients must not only be present in proper amounts but also in correct proportion to one another. In the case of chick starters, for example, researchers have found that for the fastest and most efficient growth, every 42 calories of energy should be balanced with 1% of good protein. Proper ratios have also been established, although not quite so

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definite, for growing pullets, laying hens and turkeys.

The modern feed bag includes all the latest findings of research. It is carefully balanced and is manufactured with great efficiency and precision. But if it doesn't get out to the farm, then all of the goodness it contains is wasted. Getting the modern feed bag out to the feed lots in the right amounts is the last mile and the longest one it has to make.

There are some nutrition facts that can help make the last mile shorter and easier if they are applied.

The swine feeding demonstration made by Prof. L. E. Hanson at the University of Minnesota a few years ago is one of the best illustrations of how feeders can get more from their grain by using a complete supplement.

Pigs fed corn, supplemented only with mineral, did poorly. They gained only .45 lb. per head daily. It would take these pigs nearly a year to reach 200 lb. It took 12 bu. of corn to make 100 lb. of pork and the corn was worth only $1.07 bu. A feeder supplementing in this limited way may have been better off to sell the corn—at least he would have saved his labor.

(A young farmer was telling me of his neighbor who did not supplement his corn. He said it seemed as though his neighbor's children grew up and left home before the pigs went to market.

(In talking with another young hog farmer, I found that he learned the hard way that it pays to supplement properly. When hogs were down to around 10¢, he decided not to use any supplement and opened up the corn crib and let the pigs eat what they wanted. He said: "Three weeks later when I came to my senses, I discovered, much to my dismay, that they had stood still and my crib of corn was nearly empty.")

Adding tankage to the corn and mineral greatly improved results and doubled the value of the corn. It improved results because the protein level was raised and some vitamins were added. Tankage, however, does not supply all the essential amino acids to properly supplement corn. Corn supplemented in this limited way was worth $2 bu.

By using a modern-day supplement, Prof. Hanson obtained excellent results and the most value was obtained from the corn. A bushel of corn supplemented in this way was worth $2.32. Better results were obtained because of supplying a better balance of protein, vitamins, minerals and antibiotics.

There is no better way to get this nutrition story across to the feeder than by the use of live exhibits. They may not believe you, but they'll believe the pigs.

Over-Fortification

There are some feeders who have a tendency to over-fortify grains and roughage. Over-fortification is not only expensive but it can be harmful, too. When scientists at the University of Wisconsin added extra protein to a balanced broiler ration, but did not increase energy accordingly, they got poor results.

The over-fortification or imposed imbalance creates a stress condition. The requirement for certain vitamins has been found to increase with excessive protein; if the vitamin levels are not properly adjusted, the result is retarded growth and poor efficiency. Costs per pound of gain are increased 2-3¢. Providing too much energy in relation to protein can have the same effect.

Parakeratosis, a common swine disease, expressed itself as a skin disorder, retarded growth and poor feed efficiency. This is a relatively new swine disease, and the incidence of the condition has increased during the last decade probably due to the fact that there has been a tendency to over-fortify the calcium content of rations because calcium sources are inexpensive. This condition has been produced at several experiment stations by feeding a high calcium ration. Remarkable recoveries have been reported with the addition of zinc at the rate of less than 1 oz. per ton. It's quite remarkable how just a tiny bit of material can affect performance so drastically. The cost of feeding a pig with parakeratosis for six weeks can increase the cost of marketing $2@3 per head.

My first experience with parakeratosis was with a feeder using a supplement, but like what happens all too often, the supplement was not being used properly—not enough was being fed. Soybean meal among other things was used in its place. In order to make up the minerals lacking in soy, the feeder guessed and added 50 lb. of ground limestone per ton. Why not—it's cheap and what harm could be done? The result was a severe case of parakeratosis. The pigs developed the typical skin condition and were not gaining. After the administration of zinc, the skin condition cleared up and they began to gain normally. Today the feeder uses a supplement exactly as it should be.

This is a good example of what can happen by tampering with the nutrition built into supplements and feeds today. Today's feeds are geared for high production. The balance of nutrients is critical, and to throw them out of balance just a trifle can cause trouble in terms of poor growth, production and utilization of feed.

Skimping on Supplement

How many of you dealers have been faced with the situation where farmers have told you to put 200 lb. of supplement into a mix instead of 300 lb.? What do you tell them? What are your arguments?

The results from a test at Iowa State College should help answer these questions. A poultry balancer formulated to be fed with 2 parts

(Continued on page 74)

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Kansas Researchers Report on Swine Feeding Experiments

MANHATTAN, KANSAS—Reports on a number of swine feeding studies were made recently by research workers at the Kansas Agricultural Experiment Station.

In one study, free-choice feeding of shelled corn and a mixed protein supplement was compared with feeding completely mixed rations in pelleted and non-pelleted form to pigs on sudangrass pasture. Average daily gains for the three rations were, respectively, 1.51, 1.70 and 1.70 lb. Daily feed consumption of the pigs fed free choice was less than that of those fed the complete rations. The free-choice pigs required 19 lb. more total feed than the pigs fed pellets and 2.9 lb. more than those fed the complete mixture non-pelleted. Grinding, mixing and pelleting costs were not computed.

In another experiment, increased alfalfa meal in the supplement which was used increased efficiency in drylot feeding, and addition of an antibiotic and vitamin B_{12} increased efficiency still further.

The researchers also reported that no advantage was noted under conditions of an experiment in which furazolidone was added to a ration of shelled corn and protein supplement for growing pigs. An antibiotic addition improved results, they said. In another study, it was reported, addition of arsanilic acid to the protein supplement did not improve results. When arsanilic acid and Terramycin were both added to the ration, the researchers said a good response was achieved but not so good as when the antibiotic was added alone.

The researchers also showed how parakeratosis could be produced by feeding a high-calcium ration.

A study was made of provitamin A from alfalfa and yellow corn and gelatin-stabilized vitamin A as sources of vitamin A for weaning pigs. Best results were reported for pigs receiving the stabilized vitamin A in an amount of 400 units per pound of feed. Unit for unit, pigs utilized vitamin A from alfalfa and yellow corn less efficiently than that from stabilized vitamin A.

Grain Replaces Cotton On Mexico Farmland

EL PASO, TEXAS—Fears that the U.S. Cotton Disposal Program will further lower the price of cotton on the world market is causing Mexican farmers to plant more feed crops in the place of cotton.

The disposal program had brought the Mexican nation a loss of $15 a bale or a total loss of $30 million during the 1955-56 crop year, according to Ramon Villalobos, Mexican journalist on economic problems.

Mexican farmers this year reduced their cotton acreage by 360,000 acres. Much of this land is now planted in feed crops.

Hector Calderon, who farms in the Hermosillo area, says there is more wheat being grown this year. Wheat acreage is 192,000, compared to only 72,000 acres of cotton.

Reports show that farmers in Sonora state are also growing more feed crops to provide silage and grain for the rapidly expanding program of cattle-feeding.

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No. 5742—Turkey Formula

Terramycin turkey formula, a water-soluble powder fortified with the broad-range antibiotic and enriched with eight vitamins, has been made available by the Pfizer Laboratories department of veterinary medicine. The product was designed to protect turkeys against a wide range of diseases, including blue comb and hexamitiasis, to maintain weight gains in the presence of infectious sinovitis, and to safeguard against reproductive disorders and poor egg quality, Pfizer officials said. Vitamins A, D_3 and riboflavin plus niacinamide, pantothenic acid, vitamins K, E and B_{12}, meet 50% of the birds' daily minimum requirements when the formula is administered in amounts of one teaspoonful in 2 gal. of water, it is claimed. Secure complete details by checking No. 5742 on the coupon and mailing it.

No. 5748—Insect Control

A chemical that acts as a barrier to insects, claimed to be a new approach to the insect control problem, has been announced by the Glenn Chemical Co. The chemical is called Tabutrex. The company says the product has the approval of the U.S. Department of Agriculture. Tabutrex, according to company spokesmen, is a colorless and odorless liquid that is completely safe to use. They say its properties prevent the fly from alighting on a dairy animal and therefore the fly cannot bite or in any way affect the well being of the animal. For details check No. 5748 on the coupon and mail it to this publication.

No. 5749—Powdered Molasses Flavor

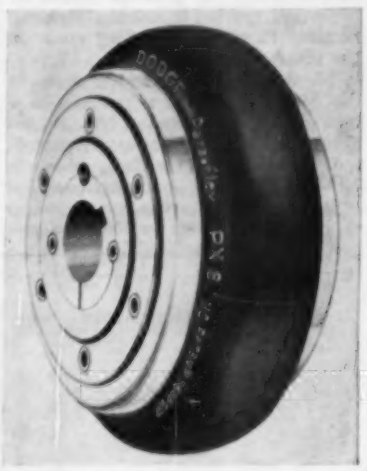
The development of a dry powder feed flavor control, which is claimed to produce a lasting, stabilized molasses flavor, has been announced by the Flavor Corporation of America. The company previously has sold a similar liquid product and this will also be continued. Advantages claimed for the new form, known as powdered Su-Co-Lass, are: It is easier to handle, mix and store; 12 oz. of the powder is required to give the equivalent flavor and aroma strength of 100 lb. of molasses; 16 lb. mixed with one ton of molasses produces the equivalent of two tons of molasses flavor, color and sweetness; possesses stability and uniformity, and does not break down as the feed ages. Secure details about the product by checking No. 5749 on the coupon and mailing it to Feedstuffs.

No. 5750—Brochure On Scales

The Exact Weight Scale Co. offers a new eight-page brochure on its "Shadograph" scales designed for use in the milling, feed and grain industry. It contains numerous illustrations, detailed specifications, and important features of 34 different models, ranging in capacities from 2,000 mg up to 100 lb. The brochure, form 3333, will be sent without charge if you will check No. 5750 on the coupon and mail it to this publication.

No. 5758—Flexible Coupling

Para-flex is described as a new concept in flexible couplings by the Dodge Manufacturing Corp., manufacturer of power transmission machinery. The coupling consists of a flexible tire clamped between two hubs which are mounted on the shafts



to be coupled. The flexible member is held between the flanges and clamp rings of the hubs. Advantages claimed for the coupling are the "ability to handle angular misalignment, parallel misalignment and end-float, individually and in any combination." The flexible member is also claimed to cushion shock loads and diminish torsional vibration. Because there is no metal-to-metal contact, the coupling requires no lubrication. Details of the coupling are available without charge. Check No. 5758 on the coupon and mail it to this publication.

No. 5751—Poultry Feed Ingredient

A new poultry feed fortifier developed especially for commercial laying mashes used in table-grade egg production is being introduced by the feed supplements department of the Borden Company's special products division. Called Borden's "300," the product is said to provide all known critical vitamins and minerals, sources of milk and fish factors and the firm's multiple blend of fermentation products. It is used at a level of from 5 to 10 lb. per ton of feed. Secure details by checking No. 5751 on the coupon and mailing it to Feedstuffs.

No. 5752—Salt Products

Two new trace mineral salt products for feed mixing only have been announced by the animal nutrition department of the International Salt Co. The new products are tradenamed Supermix Blusalt and Gold Bond Blusalt. The first product is especially formulated for use in dairy, beef cattle, sheep and swine feeds, and in poultry laying mashes. Gold Bond Blusalt has been developed for modern poultry feed mixing, especially for use in broiler, starter and finishing mashes; chick starting and growing mashes; poultry and turkey breeder mashes and duck feeds. Both products contain trace minerals—cobalt, copper, manganese, iron, iodine, zinc and sulfate sulfur—blended with salt. Secure details by checking No. 5752 on the coupon and mailing it to Feedstuffs.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5707—Grain moisture tester for farm use, Radson Engineering Corp.

No. 5708—Packaged unit pellet mill for hard pellets, mash feeds and molasses feeds (optional), Wenger Mixer Manufacturing Co.

No. 5709—Vitamin K relationship to field hemorrhagic conditions, Heterochemical Corp.

No. 5710—Prefabricated steel buildings for plant, commercial and farm use, Black, Sivalls & Bryson, Inc.

No. 5711—Vertical feed mixer with square mixing chamber, Jacobson Machine Works.

No. 5713—Stock feeder dealerships, Collier Livestock Feeder Co.

No. 5714 — Disposable, one-dose syringe for mastitis treatment, Hess & Clark, Inc.

No. 5715—Details of the bulk feed

Send me information on the items marked:

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- ☐ No. 5748—Insect Control
- ☐ No. 5749—Powdered Molasses Flavor
- ☐ No. 5750—Brochure on Scales
- ☐ No. 5751—Poultry Feed Ingredient
- ☐ No. 5752—Salt Products
- ☐ No. 5758—Flexible Coupling

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No. 5716—New pellet cooling equipment for small and medium capacity feed mills, Sprout, Waldron & Co., Inc.

No. 5720—Grain dryers, Aeroglide Corp.

No. 5722—Brochure on speed reducers, Strong-Scott Manufacturing Co.

No. 5723 — Refuse burners, Rees Blow Pipe Manufacturing Co.

No. 5724—Tramp iron removal, Cesco.

No. 5725 — Portable ramp for freight car and truck loading, Lite-Line Metal Industries of Copperloy Corp.

No. 5726—Portable horizontal ribbon mixers, Young Machinery Co.

No. 5727—Dimple-faced pellet mill rollers, Landers Mill Manufacturing Co.

No. 5728—Portable lighting fixture for illuminating interiors of storage silos, Crouse-Hinds Co.

No. 5729—New design centrifugal collectors, Kirk & Blum Manufacturing Co.

No. 5730 — Pneumatic conveying system for unloading cars, Sprout, Waldron & Co., Inc.

No. 5731—Plastic metering device for medicating poultry drinking water, Chas. Pfizer & Co.

No. 5732—Jack belt conveyor for use with vibrating bag packer and sewing machine, Richardson Scale Co.

No. 5733—Sewing head attachment for automatically starting and stopping the sewing head and cutting thread chain, Union Bag-Camp Paper Corp.

No. 5734—Surface protective spray and surface fumigant, Douglas Chemical Co.

No. 5735—Broiler-layer dehydrated alfalfa meal, National Alfalfa Dehydrating & Milling Co.

No. 5736—Automatic bag closing machine, Hamer Machine Co.

No. 5737—Grain sanitation service, Douglas Chemical Co.

No. 5738—Device for udder sanitizing, Vineland Laboratories, Inc.

No. 5739—Device for measuring out small amounts of powdered flavors, Taste Engineering, Inc.

No. 5740 — Chain-type suspended automatic feeder, Keen Manufacturing Corp.

No. 5741—Telescoping hoist mechanism for line of auger elevators, West Fargo Manufacturing Co.

No. 5743—Portable screw conveyor, Baughman Manufacturing Co.

No. 5744—BHT antioxidant additive, Koppers Co., Inc.

No. 5745 — Portable pneumatic grain handling unit, Myers-Sherman Co.

No. 5746—Unidentified growth factor product, Specifide, Inc.

No. 5747—High speed, fine finish mixer, Strong-Scott Manufacturing Co.

Memphis Membership

MEMPHIS — Pillsbury Mills, Inc., has been elected to clearing membership in the Memphis Board of Trade Clearing Association, it was announced by Arthur A. Williams, the board's executive vice president.

The firm will have floor privileges with other members and also can have trades cleared in the cottonseed meal and soybean meal futures markets. Pillsbury has opened a feed ingredients division in the Cotton Exchange Building to serve the southeast and mid-south states.

FIRE DESTROYS WAREHOUSE

NORTH LITTLE ROCK, ARK.— The Cameron Feed Mills warehouse here was completely destroyed by fire recently. Joe Scott, plant manager, said the warehouse contained livestock feed and vitamin concentrates. Loss was estimated tentatively at $25,000.

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For Cattle. Contains Rumen Bacteria. An effective product for Cattle feeds.
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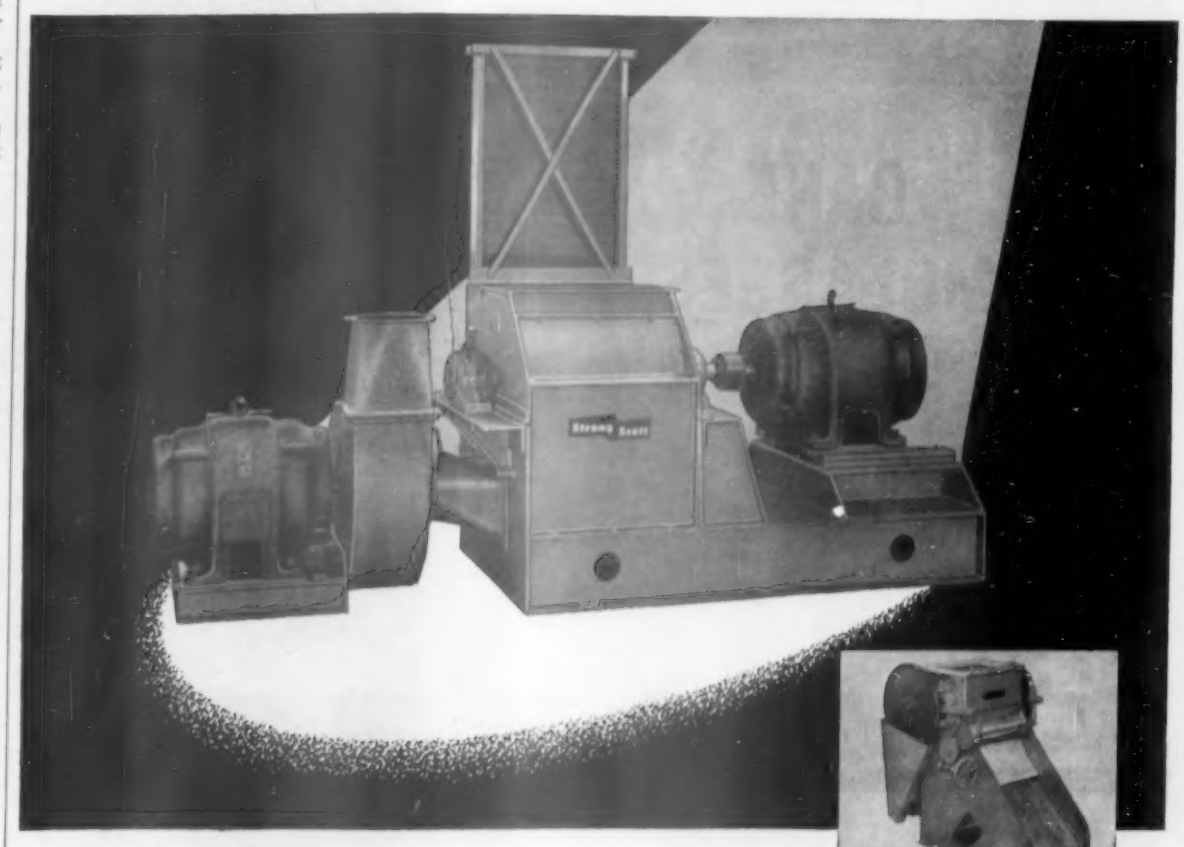

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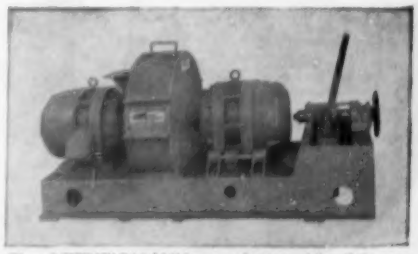

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THE UPJOHN COMPANY, Chemical Sales Division, Kalamazoo, Michigan

Value of Feather Meal in Growing-Finishing Swine Rations

● O. G. Hall, E. R. Lidvall and J. Hall, University of Tennessee; Proceedings Southeast Section of American Society of Animal Production.

Forty Duroc and Hampshire pigs, divided into eight lots of five pigs each, were used in a test to evaluate feather meal as a source of protein in the ration of growing-finishing swine. Four of the groups were self-fed the experimental rations in concrete dry-lots. The other four groups were fed similar rations on pasture consisting of orchard grass, Ladino clover and alfalfa.

The experimental rations were made up as follows: (1) basal corn, soybean oil meal and meat meal ration; (2) basal ration with feather meal protein (hydrolyzed with steam) replacing one third of the soybean oil meal protein; (3) basal ration with feather meal protein (hydrolyzed with steam) replacing two thirds of the soybean oil meal protein and (4) basal ration with feather meal (hydrolyzed with lime) replacing one third of the soybean oil meal protein. The experimental rations were fed until the pigs weighed 200 lb.

The animals receiving the feather meal gained equally as fast as the pigs on the control ration. They also required slightly less feed per unit of gain than the controls. However, the differences in feed efficiency were not statistically significant. There were no differences in performance of the pigs which received the steam hydrolyzed feather meal as compared with those receiving the feather meal which had been hydrolyzed with lime.

COMMENTS:

Poultry feathers represent a large potential source of protein for feed use. Wilder and his associates at the American Meat Institute Foundation (University of Chicago) have estimated that over 50,000 tons of feather meal, containing approximately 87% protein, could be made available annually for use in livestock and poultry feeds.

This potential volume of feather meal, together with its high protein content and relatively low cost per unit of protein, has served as the basis of a need for a great deal of experimentation to determine its value as a source of protein for the different species of animals.

Various feather meals were used as a substitute for part of the protein in chick rations by Romoser (Feedstuffs, April 30, 1955) and by Wilder and his group. In both cases, it was reported that the growth response of the chicks fed the feather meal was as great or greater than that of the chicks fed the basal diet.

Dr. Stephenson and his co-workers at the University of Arkansas found no significant differences in the body weight at four weeks of broilers fed feather meal as compared with those fed a basal corn-soybean oil meal diet. Levels of hydrolyzed poultry feathers ranging from 2.5 to 6.5% of the diet were evaluated. It should be pointed out that these levels were somewhat higher than those generally used in rations for broilers. The Arkansas group also tested poultry

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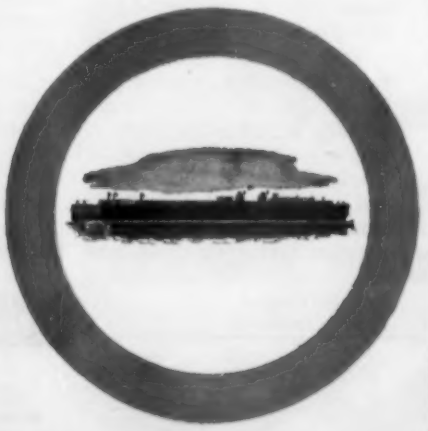

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by-product meal, both alone and mixed with hydrolyzed feather meal, as a source of protein in rations for broiler chicks.

Hall and his associates, at the Iowa Station, found that cellulose digestion, as studied by the artificial rumen technique, was increased as a result of the addition of feather hydrolysate to the media.

These Iowa workers also reported that the rate of gain of fattening lambs was increased by the addition of 20 milliliters of feather hydrolysate per pound of ration.

Jordan and other workers at the University of Minnesota showed that lambs fed feather meal as a partial replacement for soybean oil meal in their diet gained at the same rate and with approximately the same degree of feed efficiency as lambs fed the basal corn-soybean oil meal ration.

Jordan and Croom, also at the University of Minnesota, have reported the results of three experiments involving 145 lambs. These feeding trials were conducted to determine the value of feather meal as a partial replacement for other proteins (i.e. soybean oil meal) for fattening lambs. Two types of feather meal were evaluated in these tests: (1) meal processed (hydrolyzed) with high pressure and steam and (2) meal hydrolyzed by the addition of 50 lb. of hydrated lime per ton of feathers. No pressure was used in processing the feathers with lime.

Even though the commercially processed feather meal had an aroma of tankage, the lambs apparently did not find the odor objectionable. At any rate, the lambs fed the feather meal in their diet ate at the same level of feed consumption as the lambs in the control lot which received soybean oil meal as their source of protein.

These Minnesota researchers found that there were no significant differences between the rate of gain of the lambs in the control group and the lambs receiving the feather meal. However, in four of the six comparisons made in these trials, the lambs receiving feather meal in their rations made slightly better gains than the lambs on the basal diet.

Average carcass grade and yield for the lambs on the experimental diets were essentially the same as for the lambs on the basal ration.

The data reported on the feeding of feather meal to growing-finishing swine by Hall and his co-workers at the University of Tennessee serve to confirm the results of other workers with other species of animals. Additional experiments of a similar nature are presently in progress at the Tennessee Station as well as at other stations.

The processing of feather meal, as well as poultry by-product meal, is simplified by the concentration of poultry production and processing in certain areas. Consequently, the collection and processing cost per unit of protein in the resultant product will be at a minimum. All other things being equal, feather meal could prove to be a very economical source of protein for use in livestock and poultry feeds.

Although the feeding trials just reviewed would indicate that hydrolyzed feather meal can be used effectively as a partial source of the protein in rations for poultry and swine, as well as ruminants, there appears to be some variation at present in protein content and digestibility of the protein in samples collected from various sources. These factors can undoubtedly be taken care of by improvements in processing. Meanwhile, feed manufacturers probably will look for a greater degree of standardization, in situations where such is not the case now, before using a large volume in feeds for various animals.

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Feed Service Bulletin Board

Helpful Notes on Feeding and Management for Feed Men and Their Customers

Calves Need Nourishment

Good nourishment is necessary to help calves resist worm infections. Research work at the Georgia Agricultural Experiment Station shows that undernourished calves are particularly susceptible to worm parasites.

Better nourished animals eat better, remain healthy and make larger gains under equal exposure to worms. Calves raised on fescue pasture in Georgia had more worms and showed more ill effects of worm infection than comparable animals on crimson clover pasture or calves on a temporary winter pasture of ryegrass, oats and crimson clover. When the calves on fescue got supplemental corn, they had only one third as many worms, made larger gains and ate slightly more forage than calves on fescue alone.

Post mortem examinations of the calves on fescue without corn showed such stomach symptoms as swelling, inflammation and hemorrhages, while only moderate inflammation of the stomach was found in the animals on clover.

◆

Avoid Treated Seed In Ration

Dr. Paul Waibel, poultry nutritionist at the University of Minnesota, warns economy-minded poultry producers that the use of left-over seed grain for feeding poultry is very dangerous.

He said seed corn treated with Arasan, for example, is especially hazardous in poultry rations. Arasan is extremely toxic to old and young chickens alike. Minnesota research found that feeding levels of Arasan which are less than 10% of the levels found on treated seed corn produce poor growth and leg weakness in chicks and decreased egg production and soft-shelled eggs in hens.

Dr. Waibel said it is probable that during the past 10 years the poultry industry has suffered much loss due to the unrecognized use of Arasan-treated seed corn. Because the symptoms produced by Arasan resembled those of known nutritional and pathological symptoms, the known conditions were probably incorrectly diagnosed in many cases.

◆

Plant Population

A University of Minnesota report states that if every farmer growing corn in Minnesota planted the type of stand and exact population recommended for his conditions, the state's corn yield would jump an average of 20%. And that's without the use of commercial fertilizer.

◆

Watch Breeder Weight

The Hormel Packing Co. publication, The Hormel Farmer, reminds farmers that replacement breeding stock of any kind should be removed from fattening lots before they become too fat to be good breeders.

◆

Hike Poultry Income

Hoyt M. Warren, extension poultryman for Alabama Polytechnic Institute, has some tips for making egg production as profitable as it is possible to make it in these days of low egg prices.

The big question is how many pounds of feed are required for production of a dozen eggs. Mr. Warren said a good average would be 5 lb. per dozen for the entire laying year. Those having a feed conversion of 6 lb. per dozen eggs are spending about a nickel more to get each dozen.

As a start, he recommends careful management. Too full hoppers can waste about 25% of the feed. Haste in filling will also waste feed.

Production rate is also important. A 5 lb. hen laying only 40% eats 7 lb. feed per dozen eggs. The same size hen laying 80% requires only 4 lb. feed per dozen eggs.

The smaller birds are more efficient. A 4 lb. hen laying 60% requires only 5 lb. feed per dozen eggs, while

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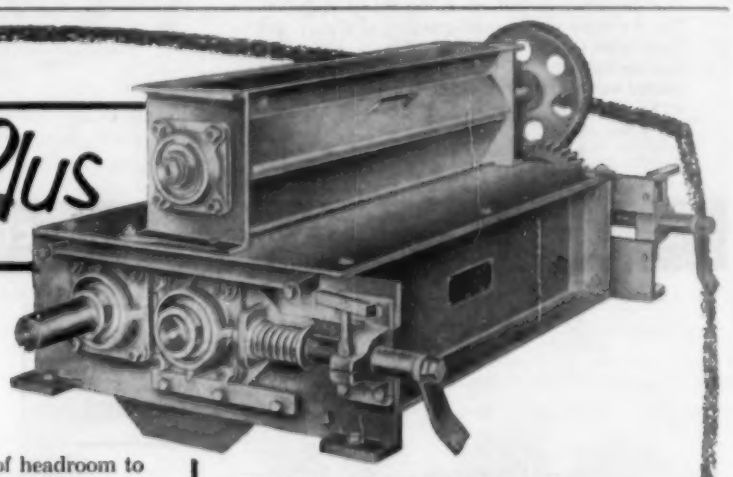
CRUMBLIZER with the Big Plus



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a 6 lb. hen laying at the same rate requires about 6 lb. per dozen.

◆

Slats Replace Litter

Slatted floors have been used instead of litter in some Indiana laying houses recently, and the practice has some advantages, Joe W. Sicer, Purdue University poultryman, reports.

The arrangement uses wooden slats about ⅛ in. wide and 1½ in. deep supported on edge a foot to 15 in. above the floor. The slats are placed about ¾ in. apart and usually are joined together in removable sections.

The advantages are these: Wet litter is eliminated, the expense of litter is eliminated, eggs are easier to keep clean, and the system allows housing of layers at the rate of 1½ sq. ft. of floor space per bird instead of the customary 2½ to 3 ft.

The increased number of hens means much more body heat, which can be used advantageously in winter, especially if the house is insulated and a forced ventilation system installed. Slat-floor houses with natural ventilation seem to function better with the additional body heat, Mr. Sicer said.

Disadvantages are that birds occasionally develop sore feet and a few get their legs caught between the slats. In many flocks, a rough feather appearance develops, and in some cases mated flocks give lower hatches. A big disadvantage is that cleaning out under the slats is a disagreeable job. Iron supports under the slats are short lived because of the chemical action of the manure.

◆

High Quality Hay

Legumes cut in the early bloom stage produce the highest quality hay available, Leo R. Fryman, extension dairy specialist at the University of Illinois, reports.

He said first bloom to about 1/10 bloom is about right for alfalfa. Hay cut later loses too many leaves to be of the best quality.

Pointing out that most of the feeding value is in the leaves, he said the big problem in quality hay production is to get the leaves into the barn. For example, alfalfa leaves contain 20 to 25% protein, while the stems contain less than 9%.

He suggests raking the hay while it is still moist and tough, and then finishing the drying when the hay is in the windrow or with a barn drying system. Since too much rain or too much sun can cut down the feeding value of hay, it is well to check the long-range weather forecasts before cutting.

◆

Hay Yield Measure

Farmers who are trying to figure the necessary storage space for their crop of hay can determine yield with a simple method described by Roger Harris, extension soil conservationist at the University of Minnesota.

Use a hand sickle, an empty feed sack, a milk scale and a yard-square frame, which can be made from a 9 ft. length of steel rod, bent into a U-shape, one yard square.

Cut 6 sq. yd. of hay with the sickle —each yard from a different part of the field. To make the cutting, slide the open end of the frame along the ground into the standing hay and cut the hay within the yard square. Cut each square at normal mowing level and put the green hay in the sack.

The whole sample should be weighed. Tonnage per acre is then determined by dividing the weight in pounds by 10. This yields the estimated number of tons of dry hay per acre to expect from the field. For example, if the sample weighs 9 lb., the yield from the cutting would be

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.9 ton per acre of dry hay from the field. The formula is figured to estimate yield of hay containing about 25% moisture, about average for field-dried hay.

To figure the weight of hay silage, the yield of dry hay should be multiplied by three.

◆

Monday Market Poor

Monday is the favored day for shipping livestock to market, Harry Smith, extension livestock specialist at Colorado State University, points out. But he adds that there is little to justify its popularity.

Records show that Monday gets 65 to 70% of the week's receipts of cattle, yet a check of March 18 to May 23 showed that slaughter cattle brought the top price on only one Monday.

Sheep fared a little better. The top prices were paid on three Mondays in the ten-week period. The margin was as wide as 25¢ on two of the three times, and the other time it equalled the Tuesday top.

Mr. Smith said a one-day-a-week market is uneconomical since it increases marketing costs. He suggests that livestock raisers space their shipments to increase the efficiency of market operation and increase their own profits.

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Blatchford Executive Comments on Industry Changes, Financing

WAUKEGAN, ILL.—Comments on feed industry changes and effects of financing plans were made recently by J. E. (Jack) Sams of the Blatchford Calf Meal Co.

Writing in a company publication, Mr. Sams said that "absurd financing plans which are wrecking profitable broiler and turkey operations are now being applied to egg production . . . and the new impetus given to large scale egg operations is making it impossible for producers, large or small, to make a profit. Now these practices, ideally fitted to promote over-production, are spreading into the swine and dairy field."

Excerpts from Mr. Sams' remarks follow:

"One thing stands out starkly clear in the feed industry. No informed observer can deny that subtle, creeping change is taking place—a change which may be only temporary or a change which might alter the whole complexion of the industry.

"The latest evidence of the new order of things is a swing away from egg production on hundreds of thousands of farms, as a sideline, towards a specialized production where multi-thousand flocks are housed and fed on a near-production-line basis. More and more these commercial operations are being integrated, with the feed manufacturer controlling practically every phase of the business.

"There is no doubt that the broiler industry was aided in the early days by having its operations wet-nursed by the formula feed manufacturer. There is little doubt that turkeys became a year-round item of diet because of the production assistance provided by the feed manufacturer. But there is increasing evidence that the practices which in their inception were practical and good have snow-balled into an avalanche which threatens the whole industry.

"With the absurd financing plans which are wrecking profitable broiler and turkey operations now being applied to egg production, eggs are currently unprofitable for the producer. It is questionable whether a commercial egg operation can compete with farm flocks where labor is no factor, where farm supplies of grains are available, and where a considerable amount of the birds' sustenance comes from an adequate amount of grazing land. But it is evident that the new impetus given to large scale egg operations is making it impossible for producers, large or small, to make a profit.

"Now these practices, ideally fitted to promote over-production, are spreading into the swine and dairy field. Is the wild scramble to sell more feed, which has already taken the profit from the chicken, turkey and egg producer, soon to complete the cycle and also take away from the farmer his opportunity to make a profit from what has heretofore been his largest source of profit—the production of eggs, dairy products and other livestock?

"It is evident that the huge amount of money necessary to carry on this devil-may-care type of slow death for an industry is not available to the small operator, and he will be and is being hurt. But, to a thinking man, it is also evident that even the larger manufacturers may not be completely protected from the Frankenstein they are creating, and some of them may find themselves sharing the misery of the ruin their reckless policy has brought upon hundreds of feed dealers and thousands of producers.

"Our industry, which is already being scrutinized by the House Small Business Sub-committee, will be investigated by the powerful Agriculture Committee, and such an investigation might produce legislation which would be unfavorable to the whole feed manufacturing business."

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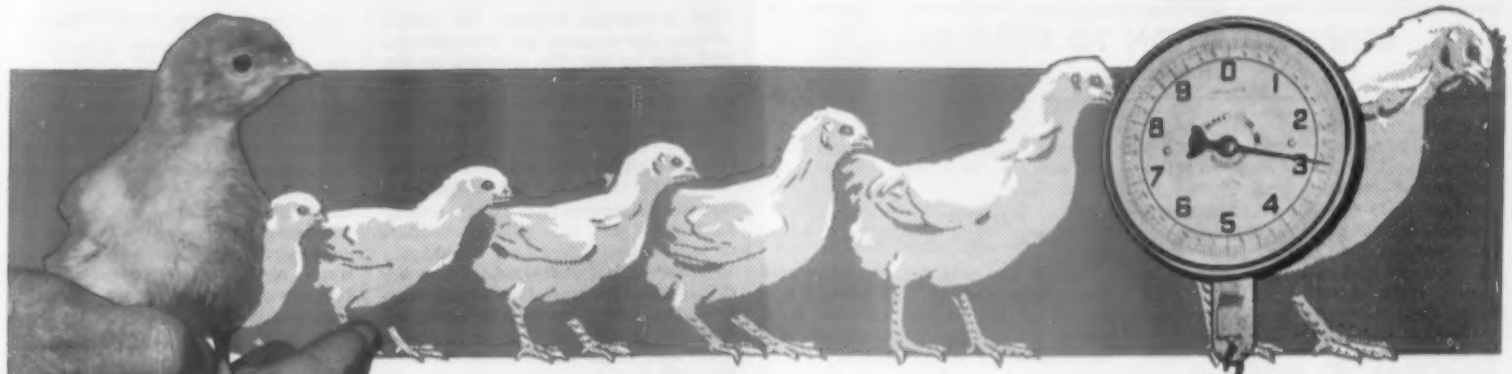

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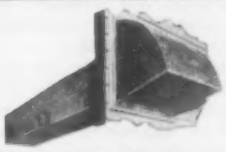

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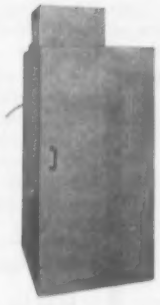

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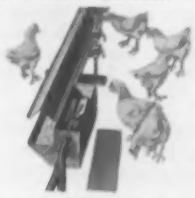

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USING NUTRITION TO BUILD SALES

(Continued from page 64)

of grain was fed with 5 parts instead. As would be expected, production was reduced—9 dozen eggs over the test period—and the feed required to produce a dozen eggs was increased because the grain was not properly balanced. It took 2.5 lb. more feed to produce a dozen eggs and as a result, each dozen eggs cost 7½¢ more than it should have.

This practice is not too uncommon. It is most likely to happen when prices slump. The feeder looks for ways to cut his cash outlay for feed and ends up stretching the supplement but wasting his grain.

I asked a young progressive farmer if his neighbors used commercial supplements. He said: "Yes, but some of the old-timers sort of stretch the point. I have one neighbor who adds one sack of supplement to a whole grain box of corn." Well, he's satisfying his conscience, but is not making his bank account grow.

Higher Energy

The poultryman has been in serious trouble. Margins have really narrowed for him. He needs help, and with higher energy rations we can help him.

The feed required to produce a dozen eggs can be reduced significantly just by raising the energy content of the feed. Workers at Cornell University show the way to greater egg profits today. They found that by increasing the energy content of the ration, more eggs were produced with less feed and with less cost. An egg mash high in fibrous, low energy ingredients like oats is inefficient. It took 5.7 lb. of this type of feed to produce a dozen eggs.

Saving the oats for the cows and using corn instead, the energy can be raised up to 945 calories per pound. At this level it took only 4.6 lb. of feed per dozen eggs; egg costs were cut 4¢ a dozen, and $21 was added to the value of a ton of feed because 84 dozen eggs were produced.

Raising the energy content above 945 calories by using animal fat, a more concentrated source of energy, gives even greater efficiency, more eggs per ton of feed and makes the feed more valuable.

Today's flock owner isn't too receptive to feed talk, but here's a place where he can be helped and he should listen.

Because production rate is not affected too much by energy content, high energy feeds are more difficult to sell. Feeders expect to see more eggs, and when they don't, they think the feed is failing. It is true that egg production may increase slightly with increased energy, but not significantly so. Increasing the energy from 740 calories up to 945 calories increased production only 3%, according to the work at Cornell University.

Less Feed Needed

The profits come from the fact that it takes less feed to produce the same number of eggs. In order for the feeder to see this he's got to keep track of the amount of feed he uses. This doesn't come easy for the average egg man.

I once called on a feeder using a high energy egg ration and he was quite perturbed because he wasn't getting more eggs. He thought the feed was failing. We checked on the amount of feed the birds had eaten and the amount it had taken to produce a dozen eggs and found that even though he wasn't getting more eggs, he was producing his eggs for 3¢ a dozen less than previously.

Turkeys respond to high energy feeds too—just like chicken broilers or laying hens. They have a tendency to grow a little faster and above all, utilize their feed much more efficiently as the energy content is increased. The net result is the same—more meat and more profit from the feed bag.

Whenever I think of high energy feeds for turkeys I'm always reminded of a turkey grower who I'm sure was a dairy farmer at one time and, I might add, a mighty poor one. This grower was having a growing mash mixed and pelleted. He was wondering how he could improve the performance of this feed because his turkeys seemed to eat a lot of the feed and yet didn't gain much. His formula contained no less than 1660 lb. of screenings. These were good screenings, you understand. Well, the poor turkeys would need a rumen to make meat on that feed.

Quality of Ingredients

High energy, high efficiency and high production feeds put greater stress on the quality of ingredients. The performance of feeds, regardless of formulation, can be no better than the ingredients from which they are made. Not only do the nutrients have to be present in the right amounts and the correct proportion to one another, but they must also be highly available—easily and readily utilized.

I do not think feeders realize that results vary accordingly. This is the advantage of buying formula feed instead of ingredients. The quality of ingredients in formula feeds is carefully guarded by the laboratories of quality manufacturers. The result is optimum and uniform performance.

Most of today's supplementary protein is supplied by soybean oil meal. This is a critical ingredient which means that it has to be properly processed for good nutrition. Meals varying in quality can affect performance of feeds drastically. The protein of underprocessed soybean oil meal may be only 50% available to poultry and hogs.

Actual feeding tests have shown that a poor quality meal can reduce the performance of feeds as much as 30%.

The soybean oil meal industry has done a wonderful job in standardizing the quality of their product, and with the aid of specifications and quality control facilities it is possible to keep away from the poor meals and get only good uniform high quality meals.

Other ingredients also are critical and may vary in quality.

The point is that there is a difference in the nutritional value of ingredients to such an extent that they may have as much influence on performance as formulation itself. In fact, this point has been demonstrated by actual feeding trials.

Using supplements from quality conscious manufacturers will insure top results—always.

Summary

Our farmer customers' operations are getting bigger and more specialized. This has been necessary so they can produce meat, milk and eggs more efficiently. It is the responsibility of the feed dealer to help the feeder obtain the degree of speciali-

BEST TASTE YET

LOS ANGELES — Meter readers making their rounds for the Los Angeles department of water and power are warding off dog bites with more tasty offerings these days. They carry with them dog biscuits which they hand out to unfriendly dogs along the route. The dog bite rate has dropped from a painful 60 a year to a single nip since the program began. It is reported that postmen are watching results of the program closely.

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zation and efficiency needed to meet the demands of current economy.

In order to serve the bigger and better customers of tomorrow, the dealer will have to be better equipped. His physical facilities will have to change to cope with new developments. But more than his physical facilities will have to change. The dealer of the future will have to be better equipped mentally in order to handle bigger and better customers.

A good understanding of fundamental nutrition will help the dealer win the feeder's confidence and help him become more efficient too.

Putting nutrition into the feed bag is the manufacturer's responsibility. This is being done with great rapidity—in fact, the ink on research reports hardly has a chance to dry before the results are put into the bag. It is also the manufacturer's responsibility to furnish a quality product—one that is made of the highest quality ingredients and has proper balance and distribution of all nutrients.

It is the dealer's responsibility to help the feeder get the nutrition out of the modern feed bag through proper use, management and sanitation.

Getting our story across to the feeder remains our biggest job and opportunity. College people tell us our customers are using only half the supplements they should. There is a big opportunity and future for all.

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PHOSPHORUS FOR CHICKENS

Purdue University's poultry science and biochemistry departments have conducted a number of experiments with a product known as soft phosphate as a source of phosphorus for chickens.

Soft phosphate contains about nine percent phosphorus, 1.5 percent fluorine apparently in some combination with calcium, and 30 percent or more of earthy material.

When soft phosphate was used as the supplementary phosphorus for chickens from six weeks of age to maturity, satisfactory growth was obtained, according to Prof. C. W. Carrick of the poultry department who was in charge of the research work.

Combinations of soft phosphate with either bone meal or dicalcium phosphate have given excellent, but not maximal, chick growth during the first six weeks. Soft phosphate has been used satisfactorily in rations for layers and high hatchability has been obtained with rations containing liberal amounts of the product.

Soft phosphate is economical for use because of its relatively low cost. A higher level of phosphorus is necessary from soft phosphate than from some other commercial phosphates because the phosphorus from soft phosphate appears to be less available.

Present feed regulations do not permit more than about 2.3 percent of soft phosphate to be used in complete poultry rations because of its fluorine content. The Purdue experiments indicate that much more fluorine can be added from calcium fluoride than from sodium fluoride without affecting the growth rate of young chicks. Chickens can tolerate more fluorine than other farm animals, the scientists said.

The work thus far indicates that the earthy material or the fluorine in soft phosphate has little if any adverse effect in the amounts that are likely to be used in practical feeding. —SOFT PHOSPHATE RESEARCH INSTITUTE, INC., MEDIA, PENN.

ADVERTISEMENT

Oklahoma Poultrymen Welcome Egg Law

STILLWATER, OKLA. — Oklahoma's poultry industry greeted the state's new egg grading law with approval at a meeting of spokesmen of all segments of the industry here recently.

The industry representatives gathered at Oklahoma A&M College to discuss provisions of the new measure and to gear the industry to meet the requirements of the law. It goes into effect Sept. 1.

The new program provides that eggs below Grade C may not be sold to customers. Other principal provisions are that eggs for sale to consumers must be refrigerated at the retail level and that advertisements which state a price must also designate the grade and size.

The representatives discussed such problems as pullet eggs, compliance with the law and cracked eggs.

"Essentially, this law means that Oklahoma will no longer be the dumping ground for eggs of inferior quality from other states," Sewall Skelton, Oklahoma A&M extension poultryman, said.

The law states that all eggs for sale in retail stores shall be graded in one of three standard grades, A, B or C and shall be marked so the consumer knows exactly what he is buying.

Inspection fee will provide funds for administration of the grading program by the state agricultural department. Egg dealers who candle or grade eggs will be licensed.

Superior Feed Mills Host at Inspection

OKLAHOMA CITY, OKLA.— B. D. Eddie, president and general manager of Superior Feed Mills, Oklahoma City, Okla., was host to the firm's dealers June 23 at an inspection of the million-dollar addition recently completed. Mr. Eddie was also host at a chicken barbecue for the dealers following the tour.

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Citrus Pulp Holds Appeal Despite Age

Gainesville, Fla.—Does dried citrus pulp, stored for some time, lose its appeal to cattle? Some cattlemen and dairymen who've been laying in a supply to tide them over until the next season's supply becomes available have been wondering.

Tests at the Florida Agricultural Experiment Station show they have no cause to worry. In fact, cows often preferred pulp that was older, reports Dr. R. B. Becker of the Dairy Science Department.

The older pulp was darker colored, but the 58 cows in on the "taste panel" didn't seem to mind. The researcher suggests that the varieties of oranges and grapefruit used to make the feed may have something to do with the cows' preference.

Dr. Becker, together with H. L. Somers and Dr. J. P. Faester, undertook the study because feed stores often assure their customers of a constant supply by contracting deliveries throughout the year or by warehousing the pulp.

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PURINA WINNERS—Ten officers of the Ralston Purina Co. are holding the entries of the 10 winners in a company contest for poultrymen. The winners were drawn from the hundreds of thousands of entries. Each winner received an aluminum caged hen house built on his farm and stocked with 1,000 hens of heavy laying strains. Purina executives pictured above are left to right: Geoffrey Baker, Ralston division vice president; J. D. Sykes, public relations vice president; Raymond E. Rowland, president; Donald Danforth, chairman of the board; Ray E. Siler, treasurer; J. E. Streetman, sales vice president; L. B. Stuart, executive vice president; F. W. Huntington, personnel vice president; Dr. R. M. Bethke, research vice president; and A. J. O'Brien, secretary. The contest winners are as follows: H. Ross McComas, Hampstead, Md.; Emmet C. Orians, Wharton, Ohio; Mrs. Roy A. Luiken, Eldora, Iowa; Fred Weier, Bartelso, Ill.; Harry Young, Madras, Oregon; Buck Way, Smithfield, Ky.; Mrs. L. D. Guest, Piedmont, S.C.; Mrs. Ivy Williams, Ty Ty, Ga.; Emil Melcher, Hillsboro, Kansas, and Mrs. Lee Stutheit, Homedale, Idaho.

NEPPCO to Feature Poultry Health Booth

TRENTON, N.J.—A special booth on poultry health manned by some of the leading poultry pathologists in the nation is one of several special convention features planned for this year's Northeastern Poultry Producers Council exposition in Harrisburg, Pa., Oct. 8-10.

The roster of specialists, headed by Dr. P. H. Seitz, poultry division chief of the Pennsylvania Bureau of Animal Industry, will be on hand to answer questions from convention visitors on every phase in the broad field of poultry diseases.

Dr. Seitz said the booth "will be a wonderful opportunity for convention visitors to consult with diagnosticians from other states."

Among other special convention features are a search for the outstanding poultry lady of NEPPCO-land, a sample flock display which allows breeders to show their outstanding breeds and strains, a selection of the nation's most outstanding hen, an egg to chick show with separate classes for egg and meat type birds, a ready-to-cook poultry contest with a producer and commercial class, 4-H and FFA egg grading competition, youth demonstrations, selection of the best poultry boy of the year, egg quality demonstrations and many others.

An indication that the exposition will be well attended is seen in the fact that sales of exhibit space are hitting a record-smashing pace, according to Doris Endebrock, exposition manager.

A total of 135 firms have already committed show space, and many of them indicate they are planning completely new displays, she said.

Daycom Appoints 2 Midwest Distributors

MINNEAPOLIS—A. C. Bredeson, Jr., vice president, Daycom, Inc., Minneapolis, manufacturer of Arid-Aire grain driers, has announced the appointment of two new midwest distributors. E. J. Heck & Son, Omaha, will cover Nebraska and Iowa. E. L. Hayes, St. Joseph, Mo., has been assigned western Missouri and eastern Kansas.

Whitmoyer Clinic

MYERSTOWN, PA. — Barbecued "Chick-N-Que" poultry made up the main dish at the picnic held at the conclusion of a three-day clinic by Whitmoyer Laboratories, Inc., Myerstown, Pa. The clinic was attended by U.S. and Canadian feed men, dealers, poultry servicemen and hatcherymen. The clinic supplemented the firm's home study course in poultry health and nutrition which the students completed prior to attending the clinic.

The next school is scheduled for Sept. 30, Oct. 1-2 and prospective students are invited to write to Dr. J. R. Wiley, Whitmoyer Laboratories, Myerstown, Pa.

Mutual Millers Set Summer Convention

JAMESTOWN, N.Y.—The Mutual Millers & Feed Dealers Assn. will hold its summer convention Aug. 13-14 in Jamestown, N.Y.

Scheduled are a golf tournament and baseball game the first day and a business session, discussions and an outing the second.

The annual business meeting will be held Aug. 14 and will be followed by a panel discussion by members. Lew Abbott, Richardson Milling Co., Hamburg, N.Y., will discuss "Diversification in an Urban Community;" Mike Gates, Randolph Feed & Supply, East Randolph, N.Y., will discuss "Diversification in a Rural Community," and Mrs. Roy Gravink, Meyerink Milling Co., Clymer, N.Y., will talk on "A Woman's Point of View."

Speaker at the noon luncheon Aug. 14 will be Hon. W. Walter Braham, retired judge. The annual outing will follow the luncheon.

Dr. R. W. Winterfield Joins Wisconsin Firm

MADISON, WIS.—Dr. Roland W. Winterfield has joined the staff of the American Scientific Laboratories, Inc., Madison, Wis., as associate research veterinarian in the research division.

Dr. Winterfield formerly held the position of research professor in the department of veterinary science at the University of Massachusetts. While at Massachusetts, he conducted research primarily on poultry respiratory diseases. He will continue similar research at ASL, along with studies on other disease problems. For four years he was associated with the disease control laboratories in the research department of the Ralston Purina Co.

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Ranchers are rapidly discovering the advantages of creep feeding their calves with **TEXO** Calf Creep Feed. Numerous State Experiment Station and ranch reports prove that they may **increase profits up to $25 per calf** with **TEXO.**

TEXO dealers sell with confidence in the quality and effectiveness of their product.

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Nutrition Talks Set For Western Meeting

PULLMAN, WASH. — Various phases of animal nutrition, including the effects of antibiotics, hormones and other substances now being used experimentally, will comprise more than half of the papers which will be presented at a meeting of western scientists at Washington State College, Pullman, July 14-17.

The occasion will be a joint meeting of the western units of the American Society of Animal Production and the American Dairy Science Assn. About 250 scientists from 11 western states, Canada and Hawaii are expected to attend. Program details have been announced by Dr. M. E. Ensminger, animal science department, and Dr. M. H. Ehlers, dairy science department, Washington State College.

The scientists said radioactive isotopes in agricultural research, and the use of hormones, antibiotics, and other new developments in animal production and disease control are two of the major topics slated for attention at joint sessions of the two groups. Most of the meeting, however, will be devoted to separate sessions of the two associations.

Jasper H. Kane, vice president in charge of research, Chas. Pfizer & Co., Brooklyn, will keynote the opening joint meeting with an evaluation of research productivity. Four scientists from the General Electric Co., Hanford, Wash., who will present a symposium on atomic research, also at the opening session, include Jack Cline, Frank Hungate, V. Glen Horstman, and Leo Bustad.

Mr. Cline will discuss benefits of isotopes in plant agriculture and Mr. Hungate will summarize biological effects of isotopes in plant agriculture. Mr. Horstman will describe techniques and equipment used in handling isotopes, and Mr. Bustad will report the benefits and biological effects of tracers in animal agriculture.

More than half of the papers in the separate sessions will report research on various phases of animal nutrition, including the effects of antibiotics, hormones and other substances now being used experimentally. Research in physiology aimed at improving reproductive efficiency will be the general subject of a number of research reports. A number of consumer preference studies will also be reported.

FDA Seizes Wheat Termed "Musty"

WASHINGTON—A minor crisis is developing on the horizon of the grain trade following the seizure of three cars of wheat at Norfolk, Va. recently by the U.S. Food and Drug Administration. According to FDA sources these cars were condemned under provisions of the FDA act on the grounds that a federal inspector's examination found these cars to be "sour and musty."

FDA officials explained that they acted in good faith under provisions of the act, since this designation of grade by a federal grain inspector indicates that the commodity is unwholesome and putrid and therefore unfit for human consumption.

The action may have caught the grain trade off balance, since it had believed FDA only intended to move against wheat when it had been found to contain rodent filth or weevil infestation in excess of the tolerance levels permitted.

FDA officials say that in this instance the wheat originated at a country point in Missouri and was shipped to a point in Illinois where the receiver asked for a federal inspection. The grain was tagged as sour and musty. The Illinois receiver rejected the cars and they ultimately were re-sold for delivery at Norfolk. At that point FDA caught up with the movement and exercised what it sees as its authority.

The events disclose the basic concern of the grain trade over the possibility that FDA has a plan to expand its activities in the wheat inspection area.

Feed Man Escapes Death in Tragedy

LEXINGTON, KY.—Carl Hudgins, buyer for the Sun-Ray Feed Co., Lexington, escaped injury and possible death here June 22 because a motorized golf cart has space for only three passengers.

One of a foursome playing golf when a storm broke, he walked for the clubhouse while the other three rode on the cart. Lightning struck the cart, killing one passenger and injuring another seriously. The third suffered a burn on his arm. Mr. Hudgins was wet, but unharmed.

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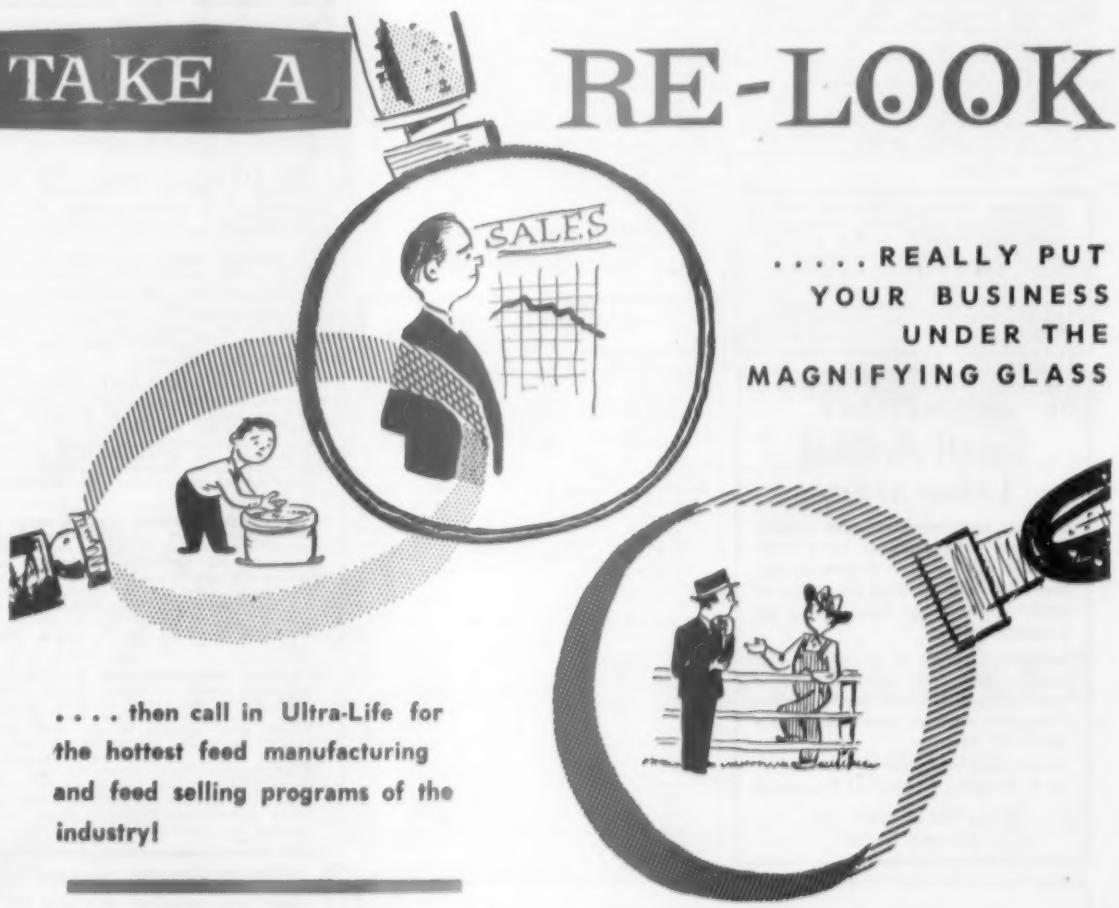

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Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9.50 per column inch. All Want Ads cash with order.

HELP WANTED

EXPERIENCED FEED SALESMAN WITH nutritional background to travel South America and Caribbean area for reliable American firm. Spanish desirable but not necessary. Address Ad No. 2851, Feedstuffs, Minneapolis 1, Minn.

MAINTENANCE AND MILLWRIGHT MAN —Experienced feed machinery for feed processing plant located in New York City. Outstanding opportunity for qualified man. Address Ad No. 2810, Feedstuffs, Suite 2214, 551 Fifth Ave., New York 17, N. Y.

PRODUCTION SUPERVISOR—PROMINENT dog food manufacturer will hire aggressive man for dry dog food department. Broad experience making corn flakes, pellets, dry dog food and cereals helpful. State salary and enclose snapshot. S. E. Mighton Co., Bedford, Ohio.

POULTRY SERVICE MANAGER — EXperienced poultry service man wanted by leading feed medication manufacturer to service customer accounts. Related college degree preferred. Technical knowledge of poultry diseases essential. Sales ability desirable. Considerable travel involved from Ohio office. Permanent position with liberal benefit program. Salary and expenses. Please submit full resume. Address Ad No. 2855, Feedstuffs, Minneapolis 1, Minn.

GROWING INDIANA COMPANY WITH the top quality line of feeds, looking for young man with M.S. or Ph.D. in nutrition to head sales promotion. Responsible for writing customer sales and service material, direct mail, meeting, field testing and some formulation. Address Ad No. 2856, Feedstuffs, Minneapolis 1, Minn.

Supervisor Small Animal Laboratory

Conduct nutritional research experiments on feed products using small animals. B.S. or M.S. degree in biological or physiological chemistry or nutrition required. Some prior experience helpful.

Interesting work in nutrition. This position is increasing in importance with the growth of our feed business. Congenial working conditions, liberal employee benefits.

Please mail complete resume to:
G. E. Eubanks, Director of Placement

A. E. STALEY MFG. CO.
Decatur, Illinois

HELP WANTED

SALESMAN WANTED—MAN CALLING ON feed dealers and elevators who wishes to add $200@500 to his monthly income. Nationally advertised product. A natural repeat item. Choice territories open. Write P. O. Box 5078, Minneapolis, Minn.

RESEARCH ASSISTANT — NEED A REcent college graduate with farm background to assist in livestock research and technical service. Opportunity for advancement. Hubbard Milling Co., Mankato, Minn.

WANTED—SALES MANAGER FOR IOWA manufacturer of heavy molasses cattle feeds distributed in several states, good salary and commission for aggressive man. State experience, age and availability in first letter for appointment. Address Ad No. 2884, Feedstuffs, Minneapolis 1, Minn.

EXPERIENCED ADVERTISING AND sales promotion man by leading manufacturer of poultry raising equipment. Prefer successful background in equipment, feed or allied lines. Lots of opportunities. Mail resume to W. B. Souder, Sales Manager, Macomb Steel Products Division, Macomb, Ill.

SALESMAN OR MANUFACTURER'S REPresentative—To call on feed manufacturers for old established Midwest paper manufacturer. Plain or printed multiwall bags. Must have established territory in Illinois, Indiana, Wisconsin, Minnesota and Missouri. Excellent and unusually attractive commission plan. Replies strictly confidential with all particulars to Box 2893, Feedstuffs, Minneapolis 1, Minn.

SITUATIONS WANTED

AMBITIOUS YOUNG MAN WITH EXperience in nutrition seeks position as assistant nutritionist with feed mill or feed additive company, or in administration. Has B.S. degree in agriculture. Address Ad No. 2877, Feedstuffs, Minneapolis 1, Minn.

FEED EXECUTIVE, THOROUGHLY trained production, sales, credit and traffic seeks change effective Aug. 1. Fully qualified for top administrative position medium or large feed operation. Successful record and highest caliber references. Address Ad No. 2881, Feedstuffs, Minneapolis 1, Minn.

AVAILABLE FOR EMPLOYMENT — FAMily man with following experience: All business activity with machinery for flour, feed and other grain processing plants, as well as some types of industrial factories requiring materials handling equipment—in the fields of designing, manufacturing and selling. Engaged several years in directing engineering and administrative work. Also have had several years' experience in actual construction of grain processing, flour mills and feed plants, and machinery installation. During past few years particular emphasis on design of commercial feed plants and grain storage. Address Ad No. 2882, Feedstuffs, 612 Board of Trade, Kansas City 5, Mo.

SALESMEN

Well-established Chicago area company seeking top-notch salesmen to sell machinery and equipmnt to country grain elevators and feed mills in Iowa. Mechanical knowledge helpful. Guaranteed salary and expenses plus liberal bonus and fringe benefits. Company furnishes car. Protected territories with excellent potential. Write, giving age, experience and education. Address Ad No. 2878, Feedstuffs, 141 Jackson Blvd., Chicago 4, Illinois.

WANTED

Sales executive— young-energetic-willing to travel part of season, handling and organizing sales of our well-known complete lines of agricultural **twines, barbed wire, baling wire, nails** and other farm steel products manufactured in Belgium. Excellent possibilities with future for right person with definite following among implement distributors and dealers and/or feed mills and dealers and other farm supply outlets. Salary PLUS profit-sharing. Replies held in strict confidence.

EMILE REGNIERS CO. (U.S.A.), INC.
415 Lexington Avenue — New York 17, New York
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NUTRITIONIST AVAILABLE — NUTRItionist with Ph.D. and institutional and industrial experience seeks position with up and coming feed manufacturer. Background and experience include poultry and large animal nutrition. Starting salary $8,400 minimum. Address Ad No. 2845, Feedstuffs, Minneapolis 1, Minn.

EXPERIENCED FEED PRODUCTION AND elevator manager desires connection with medium to large feed organization or related industry. College education and broad practical experience. Available 30 days. Prefer Midwest, but location secondary. Address Ad No. 2880, Feedstuffs, Minneapolis 1, Minn.

BUSINESS OPPORTUNITIES

FOR SALE—FEED STORE, WELL-ESTABlished, large capacity, ideal for large storage. Age forces owner to retire. Box 25, Cardington, Ohio.

FOR SALE—RETAIL FEED MILL, HEART of Dairyland. Good business, building and equipment. Owner will finance good man. Address Ad No. 2872, Feedstuffs, Minneapolis 1, Minn.

GRAIN ELEVATOR, NEARLY ALL NEW equipment, located in Michigan's best farming area. Large storage capacity, showing good net profit. Terms. Write Eaton Agency, Vermontville, Mich.

OLD ESTABLISHED ENGLISH FIRM OF feedingstuffs manufacturers, with full distributive set-up in United Kingdom, willing consider manufacturing and marketing by arrangement some first class American products for poultry, pig or cattle feeding. Address Ad No. 2876, Feedstuffs, Minneapolis 1, Minn.

FOR SALE — FEED MILL AND FARM store — Modern equipment for grinding, mixing, hulling, shelling. Handling feed, seed, fertilizer, fencing and small equipment. Rich northeast Illinois farming community on Milwaukee Railroad. Excellent business, unlimited potential. Address Ad No. 2598, Feedstuffs, Minneapolis 1, Minn.

ESTABLISHED PASTRY FLOUR MILL 250 cwt. capacity for sale by estate. Water power with diesel standby. In excellent condition—full sprinkler protection—concrete grain silos—must be sold before new crop—cash or terms to responsible buyer. An opportunity of a lifetime for operating miller. Call or write Trust Department, Michigan National Bank, Battle Creek, Mich.

DEALERS, DISTRIBUTORS WANTED TO sell new truck-mounted grain blower. Cash in on the trend to bulk handling with this low-cost, fast moving item. Blows seed grains, whole feed grain, ground feeds and pellets. Easily installed on any make or size truck or pickup. Feed dealers need them—can sell units to farmers. Several territories still open. Many inquiries from advertising need personal attention. Contact Truck Grain Blower Co., Scobey, Mont.

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Must have connections with large feed mills. Complete line of dry dog food. Manufacturer will offer private label to large concern. Good brokerage fee paid. Address Ad No. 2321, Feedstuffs, P. O. Box 67, Minneapolis 1, Minn.

When you want to Buy or Sell
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We Have Some Good Ones in
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MID-WEST BUSINESS EXCHANGE
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Montcalm Barley Malt

36,000 bushels Montcalm Barley was purchased from Burdick Grain Company, Minneapolis, Minnesota, and processed at our malthouse at Sodus, New York. Make offer for entire lot as is, for shipment via Pennsylvania Railroad. Samples on request.

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100 National Street
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MACHINERY FOR SALE

WHIRLAWAY AIRBLAST CAR LOADERS, cast iron pulleys, new and used feed and elevator equipment. Hagan Mill Machinery, P. O. Box 574, Jefferson City, Mo.

FOR SALE—ENCLOSED MOTORS, Richardson scales, truck scales, hammermills, oat crimpers, horizontal and upright feed mixers, sewing machines, elevator legs, screw conveyors, molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 574, Jefferson City, Mo.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Ad No. 2774, Feedstuffs, Minneapolis 1, Minn.

CHAMPION MOBILE GRINDER AND Mixer units, Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

36" ATTRITION MILL, PREFERABLE 4-40 volt. Shore Cob Processing Co., St. Joseph, Ill.

LARGE STOCK OF ALL TYPES GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 2, Md.

DAFFIN MOBILE FEED-U-NIT—NEW 1956. Less than 600 hours' operating time. Address Ad No. 2886, Feedstuffs, Minneapolis 1, Minn.

GOOD USED WENGER 600 SERIES MOlasses Mixer with Bin Feeder, and 15 H.P. motor. Pipestone Grain Co., Pipestone, Minn.

FOR SALE — ONE USED 20-20 BURTON mixer and one used 30-30 Burton mixer. Dr. MacDonald's Vitamized Feed Co., Box 787, Fort Dodge, Iowa.

FOR SALE—WENGER DEMONSTRATOR Model HI-Molasses combination pellet mill and molasses mixer. Wenger Mixer Mfg. Co., Sabetha, Kansas.

USED 50 H.P. CALIFORNIA STANDARD Pellet Mill and Cooler, complete with motors TEFC and dies, in good condition and operating. Alton Premium Feed Co., Alton, Iowa; Phone 3131.

FOR SALE NO. 40 BLUE STREAK MILL with crusher feeder and 60 H.P. Westinghouse motor and starter, good condition, can make good delivery. Write or phone G. E. Wadington, 2300 Fourth Ave. S.E., Cedar Rapids, Iowa.

FOR SALE — NEW FAIRBANKS-MORSE truck scale, 20-ton capacity, 24 ft. platform. This scale has been in storage for two years. Available at invoice cost, f.o.b. Eureka, Mich. J. O. Gower, Eureka, Mich.

UNION SPECIAL BAG CLOSING SEWING machines, rebuilt styles 14500,80600-E and H. New suspended units. New five foot conveyors fitted with sewing machine pedestal, electric foot control. E. C. Covell, 405 Dunbarton Rd., Baltimore 12, Md.

18" JACOBSON HAMMERMILL, DIRECT drive, Westinghouse motor 100 H.P., rebuilt, 3,580 R.P.M.; 16" Jay Bee Hammermill, direct drive, 30 H.P. motor; 10 H.P. low pressure boiler. Priced for quick sale, call or write Steinman, Inc., Woodburn, Ind.; Ph. 2-3241.

FOR SALE — DEWATERING PRESSES — Louisville 8-Roll 36"; Davenport 2A; hammer mills: JB No. 4, Model W, 75 H.P.; Jeffrey 42"x36"; rotary dryers: 3'x24', 4'6"x40', 5'6"x42', 6'x60'; ribbon mixers: 336 and 56 cu. ft., also steam tube dryers, attrition mill, conveyor. Perry, 1402 N. 6th St., Philadelphia 23, Pa.

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Largest stock new and rebuilt Flour and Feed Mill Machinery in Midwest, over 2,500 items. Roller Mills our specialty. Write us your needs.

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In this great switch-over to dust-free rolled feeds we are called upon to take in other types of grinders, and machinery.

Offered completely rebuilt from our well equipped machine shops at wonderful savings.

2 and 3 pairs high corn rolls. Double stand and single stand mills 6x18", up to 9x36". Molasses Mixers, Batch Mixers, Hammer Mills, Degerminators, etc. Write for list.

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MACHINERY WANTED

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 2, Md.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

WILL BUY USED CORN FLAKE MAchinery including rotary cooker, rotary oven, cereal drier and flaking mill. Also will buy used pellet machinery line. S. E. Mighton Co., Bedford, Ohio.

MOVES FEED STORE

SOLDIERS GROVE, WIS.—Lyall Adams has announced the moving of his feed and seed store to the former Turk Produce building on N. Main St. here. He will continue with lines of merchandise he handled formerly plus some new additional lines.

COB GRINDING HEADQUARTERS!
Our mill capacity assures adequate supply of uniform, high quality Dehydrated Corn Cob Meal for your feed program. Paxco brand acclaimed by all who use it. Write for information on uses, prices and samples.
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Standard steel elevators, belt and bucket type, available from stock. Ten Heavy Duty sizes, from 500 to 10,000 Bu./Hr., for continuous service and four Light Duty sizes, from 110 to 750 Bu./Hr., for intermittent service. We also manufacture screw conveyors and hoppers. Send your requirements for complete information.
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HIGHER QUALITY HEAT TREATED HAMMERS
Hammers direct from manufacturer of years' experience. Send your specifications or worn hammer. Quantity discounts on hammers and screens. Ask for prices.
SOUTHWEST MILL SUPPLY CO.
P. O. Box 7455 N. Kansas City, Mo.

Broiler Men Warned On Overproduction

CORVALLIS, ORE. — The broiler industry must learn to gear itself to demand based on promotional efforts or normal increase in population rather than to aim at just sharply higher production year after year.

This was a note of caution from Hermon I. Miller, chief of the poultry division of the Agricultural Marketing Service.

Speaking before the recent Oregon Broiler Growers Assn. annual meeting here, Mr. Miller said use of modern business methods has skyrocketed production of broilers from 34 million in 1934 to more than 1.3 billion broilers in 1956.

Underscoring Mr. Miller's remarks was Gordon Sawyer, Gainesville, Ga., manager of the southeastern division of the National Broiler Council. He said the industry has become amazingly efficient in production of its product, and now must work to become equally efficient in marketing.

At the meeting, B. J. Rogers, Springfield, was elected president; Mrs. E. F. Conzelmann, Oregon City, vice president, and Delmer Stutzman, Aurora, treasurer. Charles M. Fisher, Oregon State College extension poultry marketing specialist, was named secretary.

New directors elected included Glen Heisler, Forest Grove; Ray Nelson, Portland; Bert Searles, Molalla, and L. E. Turner, Veneta. Other directors are Dave St. Johns, Gervais, and Kenneth Flannagan, Crawfordsville.

In resolutions passed at the meeting, the broiler growers expressed opposition to further increases in freight rates on corn, and advocated a two-price system for wheat. They also urged closer cooperation with broiler growers in Washington.

Molasses Production Ahead of Last Year

NEW ORLEANS—Blackstrap molasses production from the 1957 Cuban sugar crop totaled 246.8 million gallons as of May 31, compared with 211.5 million as of the same date a year ago, according to the Cuban Sugar Stabilization Institute.

The yield of blackstrap per short ton of raw sugar up to May 31 was 40.2 gal., compared with 40.7 gal. up to May 31 last year. Of the 161 sugar mills operating this season, 147 had completed grinding operations as of May 31.

Dealers Added by Honeggers' & Co.

FAIRBURY, ILL. — The following feed firm operators and companies recently have been designated as dealers for the line of feeds and allied products supplied by Honeggers' & Co., Inc.: Gayne Robinson, Gayne Robinson Feed Service, Andover, Ill.; Dale C. Barney, Chapin Feed & Milling, Chapin, Iowa; John Hochstetler, Hochstetler Feed Service Co., Nappanee, Ind.; F. C. Waterman, Hart Brothers, Saginaw, Mich.; Ray Roles, Hart Brothers, Vassar, Mich., and Richard Hart, Hart Brothers, St. Louis, Mich.

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Eliminates the old fashioned, dangerous rope and weight system of operating the tripping mechanism of automatic shovel machines.
BROOKS SHOVEL HOOKS
Save time, money, accidents. Chain can't drop out of hook. Yet hook opens easily with slight hand pressure.
Write for FREE Folder and Prices
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HILLTOP AIDS FOR POULTRY
Hilltop Laboratories 715 Washington Ave. N. Minneapolis 1, Minn

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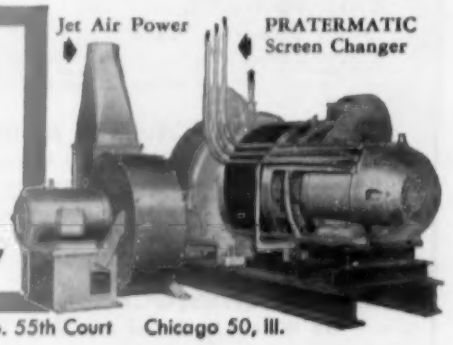
Prater Pulverizer Co. 1537 So. 55th Court Chicago 50, Ill.

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LA CROSSE, WISCONSIN . . . In the Heart of a Prosperous Midwestern Dairy and Agricultural Area.

Pictured Brewery, Recently Discontinued Operation. NOW AVAILABLE FOR LEASE Complete with Equipment.

Will Lease ALL or ONLY THAT PORTION NEEDED. Favorable terms.

● BUILDINGS
Sturdy construction, brick and cement filled beams.
Well maintained condition.
Industrial Zone.
Building measures 150' x 175'.
Approximately 60,000 sq. ft. floor area. Over 1,000,000 cubic feet.

● LAND
Adjacent lot measures 150' x 175'. Available for parking or expansion.

● EQUIPMENT
15,000 bushels steel grain silo capacity complete with bucket handling system.
Hopper scales intact.
Large mixing vats and cookers.
Hot and cold water tanks.
Deep water well, 750 gallons per minute.
Freight elevator.
Complete boiler room intact.
Much additional machinery and equipment.

"And The Fishing Is Good!

● TRANSPORTATION
Double rail siding serves all buildings.
Mississippi River barge terminals only 300 yards from plant.
La Crosse served by Milwaukee Road, Chicago and North Western, and C. B. & Q.
Municipal Airport — regular flights.
Excellent overnight trucking service to all midwestern markets.

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NEW PURINA FEED PLANT IN ALABAMA

by Special Feedstuffs Correspondent

Just about all of the "production kinks" have been worked out of the new Ralston Purina Co. feed plant at Guntersville, Ala., William C. Cooke, manager, reported recently.

The mill was originally planned as a Provico unit, but was sold to Purina last spring with construction nearly complete.

Mr. Cooke said the plant came up to "Purina's specifications" for a bulk as well as bag operation and enabled the company to step up its program for a plant in the north Alabama broiler area.

The mill has an annual capacity of about 100,000 tons.

"It will take several months to determine what volume will be bulk and what will be bags," Mr. Cooke said, "as the trend to bulk feeding has been moving rapidly." However, he noted, some operations "just don't lend themselves to practical bulk feeding"

In addition to serving local area feeders, Mr. Cooke said, some feed may be stored in the company's warehouse at Chattanooga. He said that the mill's production is primarily for distribution within a 50 to 75 mile radius of Guntersville—the Sand Mountain broiler area.

The mill operation is in the center of the plant layout. A railroad siding on the east side of the building is used for carrying in supplies, while the truck loading platforms are on the west side. The north end of the building is used as a warehouse for bagged ingredients and various poultry supplies and equipment.

"Our idea is to bring in the raw materials at one end," Fred Anderson, general foreman, explained, "mix it in the center, and warehouse it on the south side, if it isn't trucked out the same day.

"We are also getting some other feeds from the Nashville mill for our dealers in this area, since we are manufacturing only broiler and general poultry feeds at the present time."

Mr. Cooke said mixing other feeds in the Purina line will depend on local demand, but "primarily this is a poultry feed mill."

With the exception of supervisory personnel, the mill hands are local people, as is most of the office help. At present, the mill staff consists of 18 men, while the office force totals 13.

Marine Leg Planned

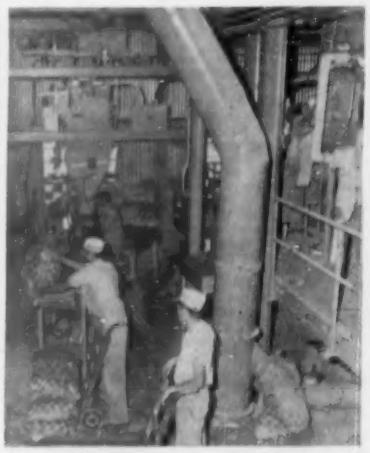
Mr. Cooke said plans are under way to provide a "marine leg" for handling grains by barge since the mill is located on the lake at Guntersville and has the necessary frontage.

With the establishment of the mill at Guntersville, Purina opened a sales office in Birmingham with Brice Johnson as manager. He was formerly in the sales department in the California poultry areas. Six districts are included in the Birmingham sales operations.

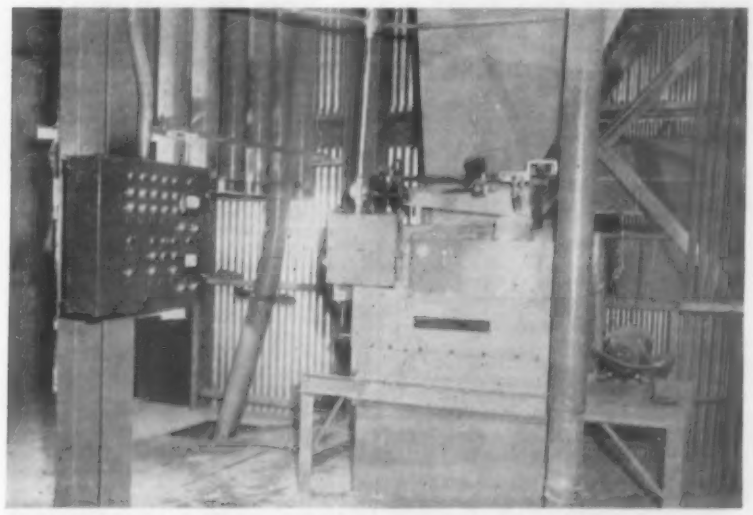
Mr. Cooke pointed out that the Guntersville mill is Purina's first in north Alabama and that previously this area had been served by production from the Nashville mill. He said the bulk of the Gainesville, Ga., mill production is distributed in north Georgia.

Here is an exterior view of the new Purina plant at Guntersville. (The checkers light up at night!) There are 16 storage tanks. On the left may be seen the railroad siding. The low building on the right is the boiler room, and truck loading docks may be seen. The property includes lakeside frontage for an eventual marine leg for handling grain by barge.

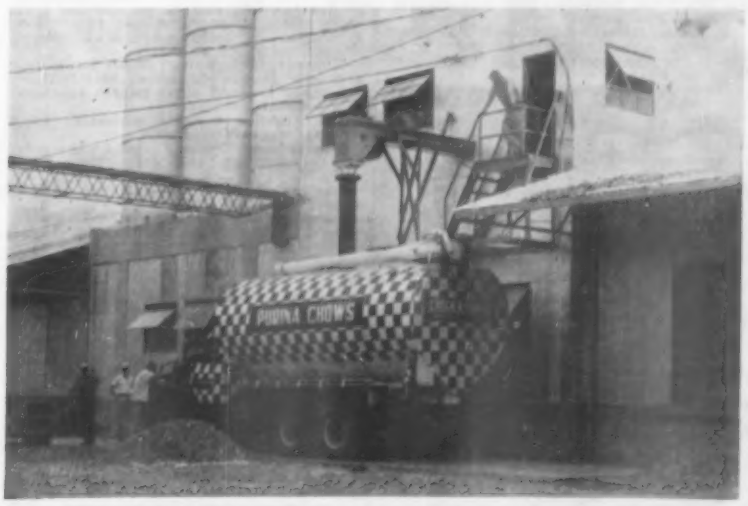
Fred Anderson, general foreman, in his office with various equipment in the background for testing material brought into the plant. Formerly at the Gainesville, Ga., mill, he was transferred to Guntersville to take over as general foreman.



The packing department is shown here. In the right foreground is one of the two pellet mills. Overhead tracks (above the hopper for bagging equipment) lead to the belt for bulk facilities can be added when and if needed.



This picture illustrates the unloading operation for bulk. The tubes on the left are connected with the various storage tanks. The flexible steel tube is clamped to the tube leading to the desired tank. Grain is sucked out of the cars across a magnetic cleaner and is moved with the vacuum system into the bin. In the center is an electric scale which records grain or bulk ingredients. The electric panel on the left shows the speed and volume of grain being moved. After the grain has been stored in the bins, it is cleaned before being used.



Loading bulk feed. The truck has a 14-ton capacity and is one of the fleet Purina expects to have in service shortly. It is on a platform scale, and the load is weighed inside the mill. The flexible rubber tube can be moved to each compartment of the truck without moving the truck. An electric switch controls the conveyor and is connected to the scale so that the proper load can be accurately determined. With divided compartments, the truck can carry two rations or separate orders for customers.

Ernest Lewter (transferred from the Nashville mill) is at the control board in the new Purina plant at Guntersville. Weighing of ingredients is controlled electrically. Mr. Lewter is facing a scale which shows the cumulative weight of all ingredients. The exact mix has been previously determined and the controls set.

HURRICANE RELIEF

(Continued from page 1)

cooperating in the emergency operation with other federal and state government officials.

Release of the government-owned grain was made following an on-the-spot survey of damage in the area at the request of President Eisenhower. Donations such as that announced for Louisiana are authorized by the amended Sec. 407 of the Agricultural Act of 1949 which permits use of farm commodities owned or controlled by the Commodity Credit Corp. for relieving distress in connection with any major disaster area determined by the President, to warrant assistance by the federal government.

Other assistance to the area may also be forthcoming. The Farmers Home Administration is surveying the area to determine the extent of need for emergency loans for farm operating expenses. In this type of assistance, loans are available for repair and replacement of farm houses and barns damaged or destroyed by the hurricane.

USDA has also offered available stocks of surplus foods through its direct distribution program to aid victims of the emergency. The department has been in continuing contact with state officials who handle distribution of these foods in Louisiana.

Weed Control May Prevent Abortion

MADISON, WIS.—A shot of 2, 4-D right now can clean out some pasture weeds, and may prevent some abortion troubles in dairy herds, according to Julian Sund, University of Wisconsin agronomist. He says some common weeds in unimproved pastures can carry heavy loads of nitrates. This is most likely to happen in marshland pastures, where the soil contains high amounts of nitrogen.

The nitrates in the weeds can cause cattle to abort, Mr. Sund says. This seems to be the cause of many mysterious abortions on marshland pastures in the central part of the state. Along with University veterinary scientists, Mr. Sund will summarize research findings on the cause and prevention of such abortions at this year's Grassland Field Day at the Marshfield Branch Experiment Station July 18.

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Denver: Demand fair; trend unchanged; supply ample; 2,250 A, 300 D 23¢ lb.

Seattle: Demand slow; trend steady; supply good; 300 D, 2,250 A 22¢ lb.; 300 D, 1,500 A 19¢ lb.; 300 D, 750 A 17¢ lb.; all ex-warehouse, drums included.

Chicago: Demand fair; supply scarce; straight A feeding oil, with 10,000 units vitamin A per gram 10@12¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: 10,000 A 25¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 75 A 18½¢.

Boston: Demand fair; supply adequate; 600 D, 1,500 A 18¢ lb.; 300 D, 2,250 A 17¢; 300 D, 1,500 A 15¢; 300 D, 750 A 14¢.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 430 lb.): 300 ICU, 750 A 15½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21½¢; f.o.b. Massachusetts, New York or Pennsylvania.

ALFALFA MEAL

Philadelphia: Demand slow; trend unsettled; supply fair; 17% dehydrated $52.75.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $54.55; 13% fine suncured $45 @50.

New Orleans: Demand fair; trend steady; supply adequate; dehydrated 17%, vitamin A guaranteed $43@50, pellets $46@47.

Los Angeles: Demand slow; trend easier; supply ample; dehydrated 17% protein $47; suncured 15% protein $41.

Boston: Demand improved; supply adequate; dehydrated 17% $53; suncured 13% $47.25.

Omaha: Demand fair; rains holding back production in most parts of Nebraska; supply ample; 17% dehydrated, 100,000 A papers or burlaps $40; 17% dehydrated, 100,000 units A, bulk, pellets $36.

Minneapolis: Demand fair; supply on better protein products limited; weather has cut protein content considerably; quotations: 17% dehydrated, 100,000 units of vitamin A guaranteed, sacked $43.50@45; 17% pellets $41 bulk; granules and oil treated $44 bulk; 18% dehydrated, 125,000 units of vitamin A guaranteed $47, bulk.

Buffalo: Demand fair; trend steady; supply good; $53, sacked, Boston.

Memphis: Demand poor; trend higher; supply scarce; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $45.

Kansas City: Demand fair to good; trend firm; very little good material available because of delays in cutting, fear that all of second cutting will have this problem unless there is no more moisture to permit dehydrators to catch up; dehydrated alfalfa meal with 17% protein and 100,000 units vitamin A guaranteed on arrival $39 @40, sacked; 18% protein and 125,000 units A meal $45, sacked; 17% protein 100,000 A pellets $36, bulk; suncured very light demand and light supplies to match, prices unchanged, No. 1 fine ground $38, No. 1 ¼-in. $37, sacked.

Seattle: Demand slow; trend weak; supply good; 15% protein suncured $42, delivered, carlots; 136,000 A unit dehydrated $66, delivered, carlots.

Portland: Demand slow; trend lower; supply ample; 15% suncured $41; dehydrated $51, f.o.b. California.

Chicago: Demand fair; supply limited; 17% dehydrated, with 100,000 units vitamin A guaranteed $46@45.50; 17% with no A guaranteed $42@43; 13% suncured $51@52.

Ft. Worth: Demand good; trend firm; supply sufficient on dehydrated, offerings of suncured increased; recent shipments dehydrated high in fiber and low in protein; Kansas dehydrated, 17%, 100,000 A $47.50@48.50; Texas origin dehydrated, 17%, 100,000 A $41@43, f.o.b. mills; suncured No. 1 13% protein, ¼-in. grind: Texas $41, Colorado origin $42, delivered Ft. Worth truck; Nebraska origin $44.50, delivered Ft. Worth by rail.

Denver: Demand fair; trend steady; supply ample; 100,000 A, 17% $41.

St. Louis: Trend steady; dehydrated, 17%, 100,000 A $44.50; suncured No. 1 fine ground, 13% $44.50, f.o.b. St. Louis.

ANIMAL FATS (STABILIZED)

San Francisco: Demand fair; supply tight; bleachable fancy 8¾¢ lb.; yellow grease 7½¢ lb.

St. Paul: Demand steady; supply tight; bleachable fancy 7¾¢ lb.

Kansas City: Demand very good from feed and soap interests; trend strong; supply tight; 7¾@7½¢ lb. for prime tallow.

Chicago: Demand good; supply low; bleachable fancy tallow, tank truck or carlots 7¾¢ lb., yellow grease 7¢.

Ft. Worth: Demand steady; supply sufficient; prime tallow, tank cars 8¢ lb.; drums 9½¢, f.o.b. north Texas packing plants with returnable drums.

Denver: Demand fair; trend steady; supply ample; prime tallow 7¾¢.

Louisville: Demand good; trend steady; supply fair; bleachable white 8¢ lb.; white tallow 8¼¢ lb.; yellow grease 7¾¢ lb.

BARLEY FEED

Philadelphia: Demand slow; supply fair; pulverized $44.50.

Portland: Demand slow; supply ample; trend unchanged; rolled $55, ground $54.

Baltimore: Demand dull; supply light; $50.

Chicago: Demand dull; supply light; $40.

Ogden: Supply normal; rolled $54@55; whole barley $46@51.

Boston: Demand slow; supply light; pulverized $51.70.

Los Angeles: Demand steady; trend easier; supply ample; standard rolled $2.93 cwt., sacked; standard ground $2.89 cwt., sacked.

New Orleans: Demand slow; trend easier; supply light; $61@64.

Seattle: Demand slow; trend easy; supply good; whole barley $54, ground barley $54, rolled barley $56, all ex-warehouse, l.c.l., sacked.

Milwaukee: Demand good; supply fair; needles 80¢@$1.05; ground $24.

San Francisco: Demand fair; supply ample; rolled $51, ground $50.

BENTONITE (SODIUM)

Denver: Demand fair; trend steady; supply ample; 200 mesh $26.50, f.o.b. Denver warehouse.

Chicago: Demand very good; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 20 mesh $15.50; fine granular, 80 to 100 mesh $12.75; powder, 200 mesh $12.50; f.o.b. Belle Fourche, S.D., minimum 20-ton carlot: $9 granular $12.50 net; 200 mesh fine $12.25 net.

BLOOD FLOUR

Louisville: Demand slow; trend steady; supply normal; $75@80.

BLOOD MEAL

Denver: Demand fair; trend stronger; supply ample; $85.

Louisville: Demand slow; trend firm; supply normal; $75@80.

Los Angeles: Demand slow; trend steady; supply limited; $6 a unit of ammonia.

New Orleans: Demand fair; trend steady; supply adequate; $95@100.

Chicago: Demand and supply fair; $100 @120, guaranteed 80% protein.

Portland: Demand slow; supply ample; trend unchanged; $100.

Ogden: Supply normal; $100 ton in 100-lb. bags, f.o.b. Ogden.

Cincinnati: Demand fair; trend steady; supply fair; $130.

San Francisco: Demand slow; supply tight; $6 a unit of ammonia.

BONE MEAL (STEAMED)

Louisville: Demand slow; trend steady; supply light; $70@75.

St. Louis: Demand fair; trend steady; supply adequate; $95, sacked.

Denver: Demand slow; trend steady; supply ample; $70, f.o.b. West Coast.

Portland: Demand slow; supply ample; trend unchanged; $95.

Los Angeles: Demand fair; trend easier; supply ample; imported, 5 to 20 ton lots $72.50@73.50 ton, sacked.

Boston: Demand and supply steady; $85.

Buffalo: Demand good; trend steady; supply ample; $85.

Omaha: Demand fair; supply ample; $90.

Chicago: Demand and supply fair; $70.

Ft. Worth: Demand quiet; supply adequate; $85, sacked, f.o.b. Ft. Worth, local manufacture.

Seattle: Demand and trend steady; supply good; $88.50, ex-dock, truck lots.

Cincinnati: Demand fair; trend steady; supply ample; $85, sacked, f.o.b. Cincinnati.

San Francisco: Demand good; supply ample; $82.50.

BREWERS DRIED GRAINS

Philadelphia: Demand dull; supply fair; $53.

Seattle: Demand slow; trend easier; supply ample; $54, f.o.b. car, Seattle.

Ft. Worth: Demand fair; supply scarce for nearby shipment; 26% $51@52, delivered Ft. Worth.

Chicago: Demand fair; supply adequate; 26% $44@44.50.

Boston: Demand fair; supply adequate; 26% $52@52.50; 23% in bulk $43; 22% Canadian, July shipment $52.

Los Angeles: Demand steady; trend unchanged; supply ample; $49 bulk, $53 sacked, f.o.b. plant, Los Angeles area.

New Orleans: Demand fair; trend steady; supply adequate; 26% $51@51.50.

Buffalo: Demand fair; trend lower; supply adequate; $44.50, bulk, Boston.

St. Louis: Demand slow; trend lower; supply adequate; $36 bulk, $41 sacked.

Milwaukee: Demand good; supply fair; $44.50.

Cincinnati: Demand fair to good; trend steady to easier; supply fair; $49@51.

Louisville: Demand slow; trend steady; supply normal; $44.

San Francisco: Demand fair; supply ample; $54.

BREWERS DRIED YEAST

Louisville: Demand slow; trend steady; supply normal; 10¢ lb.

Portland: Demand good; trend higher; supply ample; 8½¢ lb.

Seattle: Demand slow; trend steady; supply ample; $8 cwt.

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10¼@12¼¢, l.c.l.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

Los Angeles: Demand and trend steady; supply fair; 9½¢ lb. in 5-ton lots; 11¢ lb. less than 5-ton lots.

Omaha: Demand good; supply adequate; 11¢ lb.

Milwaukee: Demand good; supply limited; 10¼@11½¢ lb. in carlots; 10¾@12¼¢ l.c.l.

St. Louis: Demand good; supply limited; 10¢ lb. in carlots; 11¢ lb. in ton lots; 12¢ lb. in less than ton lots.

Buffalo: Demand good; trend firmer; supply limited; $10.85 cwt.

Boston: Demand and supply steady; 11¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

St. Louis: Demand fair; supply adequate; 10¢ lb. in carlots; 10½¢ lb. in 5-ton lots; 11¢ lb. in ton lots; 11½@12¢ lb. in less than ton lots.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

Denver: Demand fair; trend unchanged; supply ample; $11 cwt.

San Francisco: Demand fair; supply good; 10¢ lb.

BUTTERMILK—CONDENSED

San Francisco: Demand fair; supply good; $5 cwt.

Louisville: Demand dull; trend steady; supply fair; $4.25 cwt.

Philadelphia: Demand dull; supply fair; $4.25 cwt.

Ogden: Supply normal; $4.95, 100-lb. drum.

Chicago: Demand slow; supply adequate; $3.25@3.50 cwt. in carlots.

New Orleans: Demand slow; trend steady; supply adequate; $3.50@4.25 cwt.

Boston: Demand slow; supply light; 3¾¢ lb.

Los Angeles: Demand fair; trend unchanged; supply ample; 5½¢ lb. in 100-lb. lots; 4¾¢ lb. in 500-lb. lots.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $15.01, flour $10.01.
Buffalo: Crystals $15.82, flour $10.82.
Toledo: Crystals $17.60, flour $12.60.
Boston: Crystals $16.31, flour $11.31.
Limecrest, N.J.: Crystals $10.50; flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9.

Los Angeles: Demand steady; trend unchanged; supply ample; $10.25, sacked.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Minneapolis: Plain $11; iodized (½ lb. KI per ton) $14.45; iodized manganesed $15.90, in 100-lb. bags.

Chicago: Plain $8.90 ton in 100-lb. bags, delivered.

CHARCOAL

San Francisco: Demand steady; supply ample; $54.50.

Boston: Demand and supply light; $95, nominal.

Los Angeles: Demand steady; trend unchanged; supply ample; hardwood poultry $176 sacked in less than ton lots; $167.20 sacked in ton lots.

Chicago: Demand quiet; supply adequate; poultry charcoal $102 ton in 50-lb. multiwalls.

COCONUT MEAL

San Francisco: Demand fair; supply ample; solvent $58, expeller $65.

Portland: Demand slow; supply ample; trend unchanged; $66.

Los Angeles: Demand fair; trend firmer; supply adequate; copra cake, 20% protein $64.50@65.50, offshore, July.

Seattle: Demand slack; trend steady; supply ample; $66, delivered, truck lots.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply ample; 600 D, 2,250 A 21¢ lb.; 300 D, 2,250 A 20¢; 300 D, 1,500 A 17½¢ lb.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 430 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 16½@19¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 18@19½¢, 2,250 A 20@23¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York and Pennsylvania.

CONDENSED FISH SOLUBLES

Denver: Demand fair; trend steady; supply ample; $180.

New York: Demand and supply good; trend steady; 4½@4¾¢ lb., f.o.b. eastern shore.

Boston: Demand good; supply adequate; 3¾¢ lb.

New Orleans: Demand good; trend firm; supply limited; menhaden $87.50@90, f.o.b. Gulf.

Los Angeles: Demand steady; trend unchanged; supply limited; 4¾¢ lb.

CORN GERM MEAL

St. Louis: Demand slow; trend lower; supply adequate; $41 bulk, $46 in burlap sacks, St. Louis.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $49.20, meal $74.20.
Atlanta: Feed $57.21, meal $82.21.
Birmingham: Feed $55.36, meal $80.36.
Boston: Feed $54.12, meal $79.12.
Chicago: Feed $43, meal $68.
Cleveland: Feed $50.42, meal $75.42.
Denver: Feed $52.89, meal $77.89.
Ft. Worth: Feed $51.34, meal $76.34.
Indianapolis: Feed $47.94, meal $72.94.
Kansas City: Feed $43, meal $68.
Louisville: Feed $49.80, meal $74.80.
New Orleans: Feed $52.78, meal $77.78.
New York: Feed $53.71, meal $78.71.
Norfolk: Feed $53.09, meal $78.09.
Philadelphia: Feed $53.30, meal $78.30.
Pittsburgh: Feed $51.34, meal $76.34.
St. Louis: Feed $42, meal $68.

CORN OIL MEAL

Cincinnati: Demand poor; trend steady; supply adequate; $51.65.

Louisville: Demand slow; trend steady; supply ample; $51.67.

COTTONSEED OIL MEAL

San Francisco: Demand good; supply ample; expeller $67.50, solvent $65.50.

Denver: Demand slow; trend steady to weaker; supply ample; 2%, 30-ton car $61.

Cincinnati: Demand and trend fair; supply tight; solvent $63.25@65; old $63.75@ 65.50.

Philadelphia: Demand dull; supply fair; $69.50.

Louisville: Demand dull; trend firm; supply normal; old process $60.50; new process $62.50.

Wichita: Demand slow; supply sufficient; 41% old process $61.35; solvent $60.35@ 61.35.

Portland: Demand slow; trend lower; supply ample; $62, f.o.b. California.

Ogden: Supply normal; 41% $70@75.

Seattle: Demand fair; trend easy; supply good; $76, delivered, truck lots, 41% expeller process.

Ft. Worth: Demand poor; offerings light; carlots, 41% old process $53.50@56.50, f.o.b. north and central Texas mills, depending on location; solvent 41% low gossypol $59@ 60, delivered Ft. Worth; pellets $2 additional; cottonseed hulls, nominal $26@28, prompt, delivered Ft. Worth.

Chicago: Demand slow; supply tightening; hydraulic $64@64.50; solvent $64@64.50.

Omaha: Demand slow; supply adequate; 41% solvent $67.50.

Los Angeles: Demand moderate; trend steady; supply ample; $64.

New Orleans: Demand slow; trend steady; supply sufficient; 41% old process $71.50 @72.

Boston: Demand and supply steady; $70.50.

Atlanta: Demand fair; trend steady; supply ample; 41% $61, sacked, immediate.

Buffalo: Demand poor; trend steady to lower; supply adequate; $70.50, sacked, Boston.

Memphis: Demand dull; trend steady; supply adequate; prime 41% protein, old process $52.50, sacked; new process, 41% solvent $52, sacked.

Kansas City: Demand slow; trend steady to firm; supply adequate for light demand; old process meal $52.50@53, sacked, Memphis; solvent $51.50.

CURACAO PHOSPHATE

New York: Ground Curacao phosphate in 100 lb. bags $48 ton, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢; 3,000 ICU 18¢, warehouse.

Kansas City: Demand moderate; trend steady; supply adequate; 10½@11¢ lb.

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums; 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums;

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D ACTIVATED PLANT STEROL POWDERED

Chicago: Demand good; supply adequate; 4,000,000 U.S.P. units per lb., 15¢ lb., ton lots and less 17¢; 12,000,000 units per lb., 5 tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.50 net ton, f.o.b. Houston; 100-lb. multiwall bags; $66.50 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $67.10 net ton, f.o.b. Wales, in 100-lb. multiwall bags, $64.10 in bulk.

DICALCIUM PHOSPHATE

Texas City, Texas: 19% minimum phosphorus, 25% minimum calcium, 28% maximum, 0.11% maximum fluorine $76 net ton, f.o.b. Texas City in 100-lb. multiwall bags.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $89.55 ton, delivered; $3 ton less in bulk.

Trenton, Mich.: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $90.30, f.o.b. Trenton, in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $79.55, f.o.b. Trenton in 100-lb. multiwall bags.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $79.55 ton, f.o.b. Columbia, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $79.55 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn., less than 20,000 lb. $89.55; 21% phosphorus, 20,000 lb. or more $90.30, basis Chicago Heights and Nashville, less than 20,000 lb. $100.30; bulk, boxcars or hoppers, $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $79.55; freight equalized with closest producing point, carload basis.

Cincinnati: 18% phosphorus $88@89.

Denver: Demand fair; trend steady; supply ample; 18.5% $79.55, f.o.b. Chicago Heights, Ill.

Portland: Demand slow; supply ample; trend unchanged; $102.

DISTILLERS DRIED GRAINS

Louisville: Demand slow; trend steady; supply light; for July, bourbon grains: light $51.50, dark $52.50, solubles $73.

Philadelphia: Demand dull; supply light; $61.50.

Buffalo: Demand fair; trend steady to higher; supply poor; $58, bulk, Boston.

Boston: Demand active; supply ample; light, Canadian $60, domestic $62.50; Canadian dark $61, domestic $64.

Seattle: Demand dull; trend steady; supply good; $62.50, delivered, truck lots.

Cincinnati: Demand poor; trend steady to easy; supply fair; light $55, dark $53.

San Francisco: Demand fair; supply ample; solubles $85.

DRIED BEET PULP

Milwaukee: Demand and supply fair; plain $60.50, molasses $59.50.

Portland: Demand good; supply ample; trend unchanged; $55.

Atlanta: Demand slow; trend steady; supply limited; $76.55, sacked, immediate.

Los Angeles: Demand steady; trend unchanged; supply ample; molasses $46.50, sacked.

Buffalo: Demand poor; trend steady; supply fair; $73, sacked, Boston.

New Orleans: Demand slow; trend easier; supply adequate; $53@55.

Ogden: Supply average; $45@50.

Ft. Worth: Demand slow; supply moderate; carlots, 50-lb. papers $65@69, delivered Ft. Worth.

Seattle: Demand slow; trend easy; supply good; $55, delivered, carlots.

Cincinnati: Demand poor; trend steady; supply adequate; $65@66.50.

San Francisco: Demand good; supply fair; $43.19.

Boston: Demand spotty; supply adequate; $73.50.

DRIED BUTTERMILK

Wichita: Demand slow; supply adequate; $8 cwt.

Ogden: Supply normal; $7.25, 100-lb. bag.

Minneapolis: Market unchanged at $7.50 @8.25 cwt.

Boston: Demand and supply light; 9¢ lb.

Buffalo: Demand good; trend firmer; supply limited; $8.25 cwt.

Los Angeles: Demand fair; trend unchanged; supply ample; 11¢ lb.

New Orleans: Demand slow; trend steady; supply ample; $8.50@9 cwt.

Chicago: Demand slow; supply adequate; medium acid $8@8.50; sweet cream $8.50@9 cwt. in carlots.

Portland: Demand slow; supply ample; trend unchanged; $12.50.

Louisville: Demand slow; trend steady; supply normal; 8½@9¢ lb.

Milwaukee: Demand and supply fair; $10 cwt.

San Francisco: Demand fair; supply ample; 11¢ lb.

Ft. Worth: Demand very slow; supply light; local production $10 cwt., f.o.b. Ft. Worth.

DRIED CITRUS PULP

San Francisco: Demand good; supply fair; meal $52.

Atlanta: Demand slow; trend steady; supply ample; meal $35, sacked, immediate.

Buffalo: Demand poor; trend steady; supply fair; $41, sacked, f.o.b. Florida points.

Atlanta: Demand good; trend steady; supply limited; $48, sacked, immediate.

Boston: Demand fair; supply ample; $39.50, f.o.b. Florida.

New Orleans: Demand good; trend easier; supply adequate; $37@42, Florida points.

Los Angeles: Demand increasing; trend steady; supply ample; orange pulp $36 bulk, $41 sacked, burlaps; lemon pulp $34 bulk, $39 sacked, burlaps.

DRIED SKIM MILK

San Francisco: Demand and supply fair; 13½¢ lb.

Ogden: Supply normal; $15.15, 100-lb. drum.

Cincinnati: Demand fair; trend steady; supply adequate; 11@12¢ lb.

Minneapolis: Market unchanged at $10.50 @11 cwt.

Buffalo: Demand good for roller, fair for spray; trend firmer for roller, steady on spray; supply limited on roller, ample for spray; spray $11 cwt.; roller $12.75.

Boston: Demand slow; supply fair; 12¢ lb.

New Orleans: Demand slow; trend easier; supply ample; $12@12.50 cwt.

Chicago: Demand slow; supply adequate; $10@10.50 cwt. in carlots.

Los Angeles: Demand fair; trend unchanged; supply ample; 14¢ lb. in less than ton lots; 13½¢ lb. in ton lots.

Milwaukee: Demand and supply fair; $11.50 cwt.

Louisville: Demand slow; trend steady; supply normal; 11@11½¢ lb.

Philadelphia: Demand dull; supply fair; $12.50 cwt.

DRIED WHEY

Louisville: Demand fair; trend steady; supply normal; 6@6½¢ lb.

Philadelphia: Demand dull; supply fair; $6.25 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; $5.25 cwt.

Denver: Demand fair; trend unchanged; supply ample; $7 cwt., $6 carlots.

San Francisco: Demand steady; supply good; $5.50 cwt.

Portland: Demand slow; supply ample; trend unchanged; $6 cwt.

Ogden: Supply normal; $6.90, 100-lb. bag.

Seattle: Demand and trend steady; supply good; $6.25 cwt., ex-warehouse, l.c.l.

Ft. Worth: Demand slow; supply adequate; carlots, standard $6.25 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots, f.o.b. warehouse Ft. Worth.

Minneapolis: Market unchanged at $5.25 @5.50.

Chicago: Demand slow; supply adequate; $5.30@5.40 cwt. in carlots.

Kansas City: Demand normal; trend steady; supply adequate; $5.10 cwt., f.o.b. producing plant; partially delactosed $5.25.

Boston: Demand steady; supply plentiful; 5½¢ lb.

Los Angeles: Demand fair; trend unchanged; supply ample; $5.75 cwt. in carloads; $6 cwt. in l.c.l., in warehouse.

New Orleans: Demand slow; trend easier; supply adequate; $5.50@6 cwt.

FEATHER MEAL (HYDROLYZED)

Boston: Demand and supply good; $85, f.o.b. shipping points.

FISH MEAL

San Francisco: Demand fair; supply ample; Peruvian $2 a unit of protein; Canadian $2.05 a unit of protein.

Denver: Demand fair; trend unchanged; supply ample; 70% herring $1.95 a unit, f.o.b. Seattle; 60% menhaden $132, f.o.b. Gulf.

Seattle: Demand slow; trend weak; supply ample; $1.95 a unit protein, delivered, truck lots.

Minneapolis: Market on 70% unchanged at $1.80 a unit of protein, West Coast, immediate; 60% unchanged at $145, delivered.

Chicago: Demand spotty; supply adequate; eastern menhaden fish meal, 60% protein $130; western blended, 60% protein $122; Gulf $130; Northwest herring-salmon blend $124; Canadian herring, 73% protein $1.80@1.85 a unit of protein; 60% blended $150, delivered Midwest points.

New Orleans: Demand fair; trend steady; supply limited; menhaden 60% $128@130; scrap 60% $124@125, burlaps, Gulf.

Los Angeles: Demand slow; trend weaker; supply adequate; local production, 60% $2.10 a unit.

Boston: Demand fair; supply ample; $127.

Buffalo: Demand good; trend steady; supply ample; 60% protein menhaden $140 bulk, $145 sacked.

Atlanta: Demand fair; trend steady; supply limited; 60% $138, sacked, immediate.

Ft. Worth: Demand good; supply limited on nearby arrival; Canadian herring $1.80, nominal, a unit protein, f.o.b. Canada; 60% imported fish meal, prompt $136, f.o.b. Houston, first half July; 63% protein South African pilchard fullmeal with dry solubles added $142.50, f.o.b. Houston, July-August arrival; $144.50, September through May, 1958, arrival.

Portland: Demand slow; supply ample; trend unchanged; $1.90 a unit.

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $171@173.

Cincinnati: Demand poor; trend steady; supply fair; $145@150.

Milwaukee: Demand good; supply fair; 60% $160, Milwaukee.

Louisville: Demand slow; trend steady; supply light; $145@150.

HAY

Louisville: Demand very dull; trend weak; supply good; any variety of local hay, No. 1 $25, No. 2 $23; straw $18@20.

Wichita: Demand fair; supply sufficient; prairie $21, alfalfa $22.

St. Louis: Demand slow; trend steady; supply ample; No. 1 alfalfa, first cutting, new $15@18; No. 1 timothy $25@28; No. 1 clover $20@22; No. 1 prairie (Kansas) $39@42; St. Louis.

Portland: Demand slow; trend lower; supply ample; $26.

Boston: Demand good; supply fair; No. 1 timothy $38@40.

Los Angeles: U.S. No. 1 $29@31, improved demand, moderate offerings; U.S. No. 2 leafy $27@28, fair demand, ample supplies; U.S. No. 2 green $26@27, fair demand, ample supplies; U.S. No. 2 $24@25, fair demand, moderately increased offerings.

New Orleans: Demand fair; trend easier; supply sufficient; No. 1 timothy $38@40; timothy and clover mixed $42@44; Kansas prairie $38@40; No. 1 baled alfalfa $50@52.

Ogden: Supply normal; first crop hay harvested excellent; $1 bale; $18@20 ton in field or barn.

Seattle: Demand slow; trend easy; supply good; alfalfa, U.S. No. 2 green $27, delivered, truck lots.

Ft. Worth: Demand fair for alfalfa, almost nil for others; supply sufficient; due to excessive rains most hay coming to market is of inferior quality; carlots, baled, No. 1 alfalfa $40@42, No. 2 $38@40; prairie No. 2 $30@32; No. 2 Johnson $28@30, delivered Texas common points.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy $26.50;

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No. 1 red clover $33; No. 1 second cutting green alfalfa $24; No. 1 red clover mixed $34; wheat or oats straw $30.

Denver: Demand fair; trend steady; supply ample; baled alfalfa $23.

Philadelphia: Demand dull; supply light; $28@29.

HOMINY FEED

Milwaukee: Demand good; supply fair; $51, sacked, Milwaukee.

Chicago: Demand slow; supply adequate; $48.50@49.

New Orleans: Demand fair; trend steady; supply light; $56.50@57.

Boston: Demand and supply steady; $59.

Buffalo: Demand and supply fair; trend steady; $55, bulk, Boston.

Memphis: Demand nil; trend higher; supply adequate; white $53.50, yellow $53.50.

Kansas City: Demand fair; trend steady; supply adequate; $43.50@44 bulk, with $3.50 more for sacks, either yellow or white.

Seattle: Demand slow; trend steady; supply good; $61, delivered, sacked, carlots.

Cincinnati: Demand fair; trend steady; supply limited; $51@51.50.

Louisville: Demand slow; trend steady; supply ample; $50.30.

LINSEED OIL MEAL

Milwaukee: Demand good; supply fair; old process $60.75; new process $58.75.

Cincinnati: Demand poor; trend easier; supply adequate; new process $62; old process $66@67.

Philadelphia: Demand and supply fair; 34% $68.

San Francisco: Demand fair; supply ample; $78; new crop $72.

Denver: Demand slow; trend steady; supply ample; 34% $68.50.

Omaha: Demand slow; supply adequate; 32% expeller $64.50, pellets $67; 34% solvent $65, pellets $62.50.

Los Angeles: Demand good; trend steady; supply ample; 29% protein, local production, new crop $66, last half July, August, September.

New Orleans: Demand slow; trend steady; supply adequate; 32% or better $70@70.50.

Boston: Demand and supply spotty; in bulk $64.40.

Kansas City: Demand light; trend steady; supply adequate; solvent $46@46.50, bulk, Minneapolis; old process $49.50.

Minneapolis: Market fairly active; supply adequate; prices steady; 34% $46@46, immediate; old process $49.50, bulk, Minneapolis, immediate; 22% flaxseed screenings oil feed $28@29, bulk, Minneapolis.

Chicago: Demand fair; supply adequate; solvent $58.50@59; expeller $63.

Louisville: Demand slow; trend steady; supply ample; old process $67.60; new process $62.60.

Wichita: Demand fair; supply insufficient; 34% $73.

Seattle: Demand slow; trend easy; supply limited; $81, delivered, carlots, 29% protein (new crop).

Ft. Worth: Demand slow; supply adequate; carlots, 34% extracted, July $68.89; August-September $70.89.

Portland: Demand slow; trend lower; supply ample; new crop $63, f.o.b. California.

MALT SPROUTS

Milwaukee: Demand good; supply fair; oddweights $39, evenweights $41.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $44.

Boston: Demand and supply light; $46.70.

New Orleans: Demand slow; trend steady; supply adequate; No. 1 $36.50@39.

Chicago: Demand slow; supply decreasing; No. 1 $37.50@38.

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St. Louis: Demand good; trend higher; supply adequate; No. 1 bulk $36; No. 1 sacked $43; No. 2 bulk $34.

MEAT SCRAPS

Ft. Worth: Demand good; supply sufficient; meat and bone, 50% $75@77, f.o.b. or delivered Ft. Worth.

Seattle: Demand good; trend easier; supply fair; $62.50, ex-warehouse, 50% protein.

Portland: Demand better; trend higher; supply ample; meal $1.60.

Ogden: Supply average; $85, in 100-lb. bags.

New Orleans: Demand good; trend easier; supply sufficient; 50% meat and bone $87.50@91.

Los Angeles: Demand moderate; trend steady; supply ample; 50% protein $1.70 @1.75 a unit.

Chicago: Demand and supply fair; 50% protein $75.

St. Paul: Demand good; price trend stronger; supply limited; 50% meat and bone scraps $82@87.

Boston: Demand cautious; supply plentiful; $1.05 a protein unit; converted 50% $65.

Buffalo: Demand stronger; trend higher; supply limited; 50% meat scraps $77.50 bulk, $82.50 sacked.

Kansas City: Demand good; trend strong; supply very tight; 50% meat and bone scraps $82.50@85 sacked.

Omaha: Demand good; supply ample; $82.50.

Wichita: Demand good; supply sufficient; 50% $85, f.o.b. plant; 55%, no quotations, no offerings.

New York: Demand fair; trend higher; supply good; 50% $65, 55% $70, bulk; 50% $65, 55% $72, sacked.

Louisville: Demand slow; trend firm; supply ample; $70@75.

Cincinnati: Demand good; trend steady; supply fair; 50% $72, sacked, f.o.b. Cincinnati.

Denver: Demand fair; trend steady to weak; supply limited; 50% $72.50.

St. Louis: Demand good; trend higher; supply adequate; 50% $79@80 bulk, $84@ 85 in paper sacks, $83@84 in burlap sacks.

San Francisco: Demand good; supply fair; $1.70 a unit of protein.

MILLET

St. Louis: Demand slow; trend steady; supply ample; recleaned Early Fortune $4.25 cwt., sacked; recleaned White Proso $4.25 cwt., sacked.

MILLFEED

Minneapolis: Demand good earlier in the week; prices slightly higher; bran $34, standard midds. $37, flour midds. $42, red dog $46.

Kansas City: Demand fair to good; trend steady; supply tight for sacked bran and shorts and bulk middlings; bran $34.75@ 35.50, shorts $39.50@40, sacked; bran $32.50 @34, shorts $36.25@37, middlings $35@ 35.50 bulk.

Ft. Worth: Demand good for bran, fair for shorts; offerings light on bran, adequate on shorts; carlots, burlaps, prompt, bran $42@44; gray shorts $47@48, delivered Texas common points; $1 higher on bran and unchanged on shorts, compared with previous week.

Wichita: Demand good; supply insufficient; basis Kansas City; bran $35.50, shorts $39.75; bran advanced $1 ton, shorts were unchanged to 25¢ ton higher, compared with the preceding week.

Omaha: Demand and supply good; bran $35.50, shorts $40; standard midds. $36.50, bulk.

Denver: Demand fair; trend steady; supply ample; bran $38.50, shorts $43, mill run $40.75.

Chicago: Bran showed further weakness during the week ending July 3, but this was counter-balanced by an advance on flour midds. The market was somewhat indecisive and trade was light. Quotations: bran $37.50@38, standard midds. $41@ 41.50, flour midds. $46@47, red dog $49@50.

St. Louis: Demand good; price trend higher; supplies adequate; bran $40@40.50, shorts $39.50@40, St. Louis switching limits.

Cincinnati: Demand fair; trend steady to easy; supply fair; bran $44, middlings $46@47.

Louisville: Demand fair; trend strong; supply ample; bran $46.25, mixed feed $49, shorts $50.75, middlings $48.50.

Buffalo: Mixer business improved slightly from the previous week, with demand centered more in middlings than in bran. Red dog continued strong in a nominal shipping position. Bran ended unchanged; middlings were unchanged to 50¢ higher and red dog advanced $2. Bulk differentials on bran ranged from $4.50 to $5 and $5 on middlings. Bran $39.50@40.50, standard midds. $42@42.75, red dog $51@52.

New York: Demand fair; trend lower; supply good; bran $47@47.50; standard midds. $49@49.50.

Boston: Demand and supply steady; Canadian bran $48; Canadian middlings $50.

Philadelphia: Demand dull; supply light; bran $49, standard midds. $54, red dog $54.

New Orleans: Demand good; trend steady to easier; supply ample; bran $43@44.50; shorts $48@49.50.

Memphis: Demand poor; trend steady; supply ample; wheat bran $42.50, gray shorts $47, standard midds. $45.

Seattle: Demand poor; trend easy; supply ample; $41, delivered common transit points, carlots.

Portland: Demand slow; trend lower; supply ample; $40.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $41, middlings $46; to Denver: red bran and mill run $48; middlings $53; to California: red bran and mill run $48.50, middlings $53.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand fair; supply ample; $47.50; red bran $51.

Los Angeles: Demand fair; trend easier; supply ample; standard mill run $47.50@ 48; better demand for mill run at discount under red bran; red bran $50@51.

MINERAL FEED

Ogden: Supply normal; $108 ton in 50-lb. blocks; $98 ton, granular, 50-lb. bags.

Portland: Demand good; supply ample; trend unchanged; $42.

Seattle: Demand fair; trend steady; supply good; competitive brands $48, ex-warehouse; high phosphorus mixtures $38, ex-warehouse.

Sioux City: 50-lb. mineral blocks, 8.2% phosphorus $92; 7.8% phenothiazine sheep mineral blocks $4 each.

Ft. Worth: Demand fair; supply ample; all-purpose granules $89, block $94; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $99, block $103; hog mineral phosphorus 3½% granules $88; phosphorus 2% $78 (all in 50-lb. paper bags).

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Wichita: Demand moderate; supply sufficient; all-purpose with iodine, 50-lb. blocks $95, 100-lb. bags $90, f.o.b. plant.

Denver: Demand fair; supply ample; trend unchanged; 7.5% phenothiazine, 45-lb. blocks $4.50; 8.3% phosphorus, 50-lb. blocks $3.50; 7.5% phenothiazine, 8.3% phosphorus, 45-lb. blocks $5.25; 5% phosphorus, 50-lb. blocks $2.65.

MOLASSES

Cincinnati: Demand fair; trend easier; supply adequate; 19½@20¢ gal., New Orleans.

Louisville: Demand dull; supply ample; trend easy; 19¾¢ gal., tank car lots, f.o.b. Gulf ports.

New York: Demand and supply fair; trend steady; blackstrap 23¢ gal., tank cars, tank wagons, f.o.b. New York.

Seattle: Demand slow; trend easier; supply good; $35, f.o.b. Seattle, tank car lots.

Ft. Worth: Demand very slow; supply adequate; blackstrap 22¢ gal., f.o.b. Houston; delivered Ft. Worth truck $47.03 ton, seller's market price on date of shipment.

Minneapolis: Demand fair; price trend weaker; supply plentiful; 19½¢ gal., f.o.b. New Orleans.

San Francisco: Demand and supply good; $35, f.o.b. cars, Richmond, Cal.

Kansas City: Demand poor; trend weak; supply ample; 19@19½¢ gal., tank car, New Orleans.

Memphis: Demand poor; trend lower; supply ample; blackstrap 19¼¢ gal., tank car, f.o.b. New Orleans.

Atlanta: Demand good; trend steady; supply limited; citrus $25, bulk, f.o.b. Florida producing points, immediate.

Buffalo: Demand fair; trend steady; supply good; 23½¢ gal., f.o.b. Albany.

Boston: Demand seasonal; supply ample; 23½¢ gal. in tank cars.

Los Angeles: Demand steady; trend unchanged; supply ample; $35, f.o.b. tank cars; $36.25, f.o.b. tank trucks.

New Orleans: Demand slow; trend easier; supply adequate; 20¢ gal. in tank cars or trucks; 600-lb. in customers' drums $12.15, f.o.b. New Orleans.

NIACIN

New York: Trend steady; $8 kilo, 50-kilo lots; $8.10 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Louisville: Demand fair; trend unusually steady; supply normal; reground $22.50, rolled $90, feeding $82, pulverized white $50.50, crimped white $73.75.

Philadelphia: Demand slow; supply fair; pulverized white $52.50; Canadian oat feed $24.50; domestic oat feed $24.

New Orleans: Demand sluggish; trend easier; supply light; pulverized $70.50@71; ground $70.50@81.

Los Angeles: Demand fair; trend steady; supply ample; pulverized, local production $60@61, sacked.

Boston: Demand and supply steady; white pulverized, Canadian $53, domestic $52.50; ground mixed $46.20; reground oat feed $20.

Memphis: Demand poor; trend steady; supply ample; 2½% protein, reground oat feed $22.25.

Minneapolis: Prices steady to higher, demand off but supplies limited; most buying on hand-to-mouth basis; feeding rolled oats $87@89, standard pulverized $45@ 46.50, feeding oatmeal $72@73, crimped $63, reground oat feed $15.

Chicago: Demand fair; supply adequate; reground oat feed $15; fine ground feeding oatmeal $72@74; feeding rolled oats $85 @87.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $50.05; reground oat millfeed 8% protein $34, 3% $26.50.

Seattle: Demand fair; trend easy; supply ample; whole oats $60, ground oats $60, rolled oats $62, all ex-warehouse, l.c.l., sacked.

Portland: Demand slow; supply ample; trend unchanged; rolled $59, ground $56, cleaned $58.

Cincinnati: Demand poor; trend steady to easy; supply adequate; reground oats $21.50; pulverized white oats $50.50@51.50; rolled oats $93.50.

St. Louis: Demand slow; supply adequate; reground oat feed $18.25 in 100-lb. burlap sacks; pulverized white oats $47.50, choice $49.50.

OYSTER SHELL

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Cincinnati: Demand fair; trend steady; supply adequate; $21.75.

Seattle: Demand and trend steady; supply good; eastern $28, l.c.l., ex-warehouse.

Louisville: Demand fair; trend steady; supply normal; in 80-lb. bags $22.26; in 50's $22.51; in 25's $24.76.

Portland: Demand good; supply ample; trend unchanged; western $28, eastern $27.50, granite grits $27, oyster shell flour $18.

Boston: Demand good; supply plentiful; $13 in paper.

Los Angeles: Demand steady; trend unchanged; supply ample; $14.80, sacked.

New Orleans: Demand good; trend steady; supply plentiful; local $13@14.80.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $51.

Atlanta: Demand slow; trend weak; supply limited; 45% $51, sacked, immediate.

PEAT MOSS

San Francisco: Demand fair; supply ample; $3.35 bale.

Boston: Demand and supply steady; $3.10 bale in carlots.

New Orleans: Demand fair; trend steady; supply ample; $3.55@3.85, standard bale German moss.

Los Angeles: Demand fair; trend unchanged; supply ample; Canadian 6.1 cu. ft. bales $3.70 bale.

Chicago: Demand good; supply moderate; $3.85@3.95 standard 7½ cu. ft. bale.

Seattle: Demand fair; trend steady; supply good; $3.50 bale, l.c.l., ex-warehouse.

Portland: Demand good; supply ample; trend unchanged; $3.25.

Philadelphia: Demand and supply fair; $3.12, f.o.b. pier.

POTASSIUM IODIDE, U.S.P.

New York: Trend steady; granular or crystals $1.90 lb. in 250-lb. drums, $1.93 lb. in 100-lb. drums, $1.95 lb. in 25-lb. drums; 99% KI in calcium stearate or carbonate mixtures, $1.81 lb. in 250-lb. drums or 200-lb. lots, $1.83 lb. in 100-lb. drums, $1.86 lb. in 25-lb. drums; f.o.b. New York, New Jersey or Pennsylvania; freight allowed to destination on 100-lb. drums or larger packings.

St. Louis: Demand fair; trend firm; supply adequate; 100% pure potassium iodide, U.S.P., 250-lb. average in drums $1.90, 100-lb. lots in fiber drums $1.93; 90% potassium iodide calcium stearate mixture, 225-lb. lots in leverpak drums $1.81, 100-lb. lots in fiber drums $1.85.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gram in 2.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand improving; expected increase in offerings for July; carlots, nominal, rice bran $33@34, prompt shipment, f.o.b. south Texas rice mills; hulls $5, f.o.b. mills.

New Orleans: Demand fair; trend easier; supply light; rice bran $34@36; no quotes on hulls.

Los Angeles: Demand fair; trend steady; supply limited; bran, California production $50, sacked.

Atlanta: Demand slow; trend steady; supply limited; bran $42, sacked, immediate.

San Francisco: Demand fair; supply ample; bran $45, polish $52.

SCREENINGS

Ft. Worth: Demand poor; supply sufficient; 12% protein, ground $36.50, sacked, delivered Ft. Worth.

Buffalo: Demand and supply fair; trend steady; ground, sacked $28, New York, lake and rail; unground, bulk $21.50, New York.

Chicago: Demand fair; supply plentiful; ground grain screenings $27.50; Canadian $18, bulk.

Minneapolis: Demand fair; supply fair; country run $15@20, lights $5@12, mediums $12@24, heavies $22@32; Canadian $13, bulk, Duluth; Canadian ground $23, sacked, Duluth; flax screenings $18.

Cincinnati: Demand fair; trend steady; supply fair; Canadian $24.50; barley $16.50 @23.50, both bulk, delivered.

Denver: Demand fair; trend strong; supply ample; $34.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $18.85@19.10.
Buffalo: $23.65@23.90.
Chicago: $23.10@23.35.
Cincinnati: $21.80@22.
Des Moines: $23.60@23.85.
Kansas City: $23.20@23.45.
Memphis: $20.50@20.70.
Minneapolis: $24.25@25.55.
Philadelphia: $22.65@22.90.
St. Louis: $22.50@22.75.
Tampa: $18@18.20.
Toronto: $27.50@27.80.

SORGHUMS

Cincinnati: Demand fair; trend steady; supply adequate; $2.75@2.80.

Los Angeles: Demand slow; trend easier; supply ample; milo $2.60 cwt., bulk, by rail.

Ft. Worth: Demand fair; offerings sufficient; new crop south Texas milo beginning to move; carlots, bulk, No. 2 yellow milo $2.24@2.26, delivered Texas common points.

SOYBEAN OIL MEAL

Portland: Demand slow; trend lower; supply ample; $41.50.

Ft. Worth: Demand good; supply sufficient; carlots, 44% $66.50@68.50, depending on origin and tonnage; trucks $61, delivered Ft. Worth.

Seattle: Demand steady; trend firmer; supply good; $78, delivered, carlots.

Ogden: Supply average; $85@90.

Louisville: Demand dull; trend stronger; supply ample; $55.42.

New Orleans: Demand spotty; trend easier; supply ample; 44% $66@66.50.

Los Angeles: Demand slow; trend easier; supply ample; 44% protein $75.49.

Boston: Demand and supply steady; 44% $42; 50% $50.50, both f.o.b. Decatur.

Atlanta: Demand fair; trend steady; supply ample; 44% $63, sacked, immediate.

Memphis: Demand good; trend steady; supply limited; prime 44% solvent $53, sacked, f.o.b. Memphis.

Kansas City: Demand slow to fair; trend steady; supply adequate; Kansas City and western shipment $43@43.50, bulk, Decatur; unrestricted $44@44.50.

Chicago: Demand shows some increase; supplies, especially for nearby shipment, seem to be tighter. Prices held steady. A fair trade for last-half July was reported, and some new crop supplies were traded for October-November-December at near current prices. Quotations: 44% soybean oil meal $53@53.50.

Minneapolis: Demand good; supply adequate; price trend steady; $40.50@41.50, bulk, Decatur.

Decatur: Demand and supply fair; 44% bulk, unrestricted $44@44.50.

Omaha: Demand slow; supply adequate; 44% solvent $59.50, pellets $62; 41% expeller $62.50.

Philadelphia: Demand slow; supply ample; $43, bulk, Decatur.

Milwaukee: Demand good; supply fair; $43.50, bulk, Decatur.

Cincinnati: Demand poor to fair; trend steady; supply fair to adequate; $43@ 44.50, bulk, Decatur.

Denver: Demand slow; weaker tone; supply ample; 44% $67.

San Francisco: Demand fair; supply ample; $75.

Wichita: Demand slow; supply ample; 44% $61, 50% $69, f.o.b. Wichita.

SUNFLOWER SEED

St. Louis: Demand fair; trend steady; supply ample; black—large $15.50 cwt., medium $14 cwt., small $10.50; gray—large $16 cwt., medium $14.50 cwt., small $11 cwt.

TANKAGE

St. Louis: Demand fair; trend higher; supply adequate; 60% $80@81 bulk, $85@ 86 in paper sacks, $84@85 in burlap sacks.

Cincinnati: Demand slow; trend steady; supply adequate; 60% digester $77.50.

Omaha: Demand good; supply ample; $82.50.

St. Paul: Demand fair; price trend firmer; production down but supplies sufficient for needs; 60% digester $84@87.

Ft. Worth: Demand good; supply scarce; 60% digester $85@87, f.o.b. Ft. Worth.

Kansas City: Demand fairly good, im-

provement looked for; trend strong; supply adequate in most cases; 60% digester $62.50 @65, sacked.

New Orleans: Demand good; trend stronger; supply plentiful; 60% $90@92.

Chicago: Demand and supply fair; 60% protein $82.50.

Louisville: Demand slow; trend steady; supply ample; $75@80.

Wichita: Demand good; supply sufficient; 60% $85, f.o.b. plant.

VITAMIN E FEED SUPPLEMENT

Rochester, N.Y.: Demand and supply good; trend steady; 50- and 100-lb. drums $1.80 lb., 25-lb. drums $1.85 lb., f.o.b. manufacturing plants, freight allowed to destination.

New York: Demand and supply good; trend steady; 50- and 100-lb. drums $1.80 lb., 25-lb. drums $1.85 lb., f.o.b. manufacturing plants, freight allowed to destination.

WHEAT GERM MEAL

Minneapolis: Market higher at $56.

New Orleans: Demand poor to fair; trend higher; supply limited; $56@58, cottons.

Buffalo: Demand and supply fair; trend steady; commercial grade $56, sacked, Buffalo.

New Poultry Chief At Georgia School

ATHENS, GA.—Dr. J. C. Driggers, chief nutritionist at the University of Florida, has been named chief of the poultry department at the University of Georgia to succeed Dr. C. K. Laurent, who resigned to become general manager of Marbut Milling Co. at Augusta, Ga.

Dr. Driggers, a native of Florida and a graduate of the University of Florida, is a member of the World Poultry Science Assn. and a past chairman of the poultry section of the Southern Agricultural Workers Assn.

He will assume his new duties here about Aug. 15, when he plans to move his family to Georgia.

Dr. Driggers has been doing research work with high protein feedstuffs, chiefly peanuts and citrus pulps, in laying flock rations. In addition, he has been doing research with radioisotopes, particularly Calcium 45 and Phosphorus 32. He has also worked with high efficiency feeds for broilers under simulated Florida conditions.

Aeration Equipment Bought for CCC Grain

WASHINGTON—The U.S. Department of Agriculture has announced the purchase of 8,250 aeration duct assemblies and 7,250 fan and motor assemblies for conditioning grain in Commodity Credit Corp.-owned steel storage bins in 11 states. Offers to supply 1,000 wind ventilator assemblies were rejected.

Contracts were awarded to the Oakes Manufacturing Co., Inc., Tipton, Ind., for the aeration duct assemblies at a total price of $65,820 delivered and to McGraw-Edison Co., Albion, Mich., for the fan and motor assemblies at a total price of $38,851 delivered. The equipment will be delivered at specified points in the 11-state area of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin for aerating CCC-owned grain stored in USDA standard 3,250-bu. steel bins.

A new request for offers to supply wind ventilators will be announced soon.

CCC SALES

(Continued from page 1)

bushels was sold during the week. Most of the beans came out of Illinois and Iowa.

The Minneapolis office during the week ending June 27 sold 56,112 bu. wheat, 1,575,323 bu. corn, 304,840 bu. barley, 8,423 bu. oats, 2,197,304 bu. soybeans and minor amounts of rye and flax for domestic use. Export sales over the period included 1,243,000 bu. flaxseed. The emergency feed program brought about sales of 69,517 bu. corn, 71,596 bu. barley and 9,319 bu. oats.

The Portland office announced an offering for sale for export of three cargoes totaling some 28,500 long tons of bulk western barley. Bids on the offering were to be in by July 3.

CROP REPORT

(Continued from page 1)

on the West Coast—sorghum grain acreage and soybeans.

Top policy is still held in the desk drawers at USDA to prevent any disastrous break in the corn price. According to reports, the department will step in with a low loan price support level as it did last year, within even the big spread of a 2.8 and 3.3 billion bushel corn crop. Even at the lower level, if corn production fell to 2.8 billion there could still be a low loan level.

While the July crop report will disclose some clear indications and begin to jell USDA policies, it will still remain for the final decision to rest on the cotton crop report due on Aug. 8.

An index of the underlying uncertainty over the crop is the wide disparity of expert estimates of the cotton crop. USDA officials have reportedly been given expert opinion that the cotton crop will be as low 8 million bales. The most optimistic estimate is 12 million.

Backing up farther in an examination of the total feed supply problem, one must look at the soybean production outlook. Here again crop outturn is a matter of a wide spread of guesswork. Final crop estimates vary all the way from 450 million bushels to as high as more than 500 million.

The constructive factors in the soybean outlook are two. First, soybean processors have been vigorously taking beans away from the Commodity Credit Corp. stocks which have been received under loan defaults. Up to this time processors through country warehousemen are said to have bought back from the loan more than 10 million bushels of beans. They reportedly cleaned out all CCC loan default stocks—warehouse and farm-stored — in Iowa, Indiana and virtually everything in Illinois except beans which had no billing.

USDA officials said that after recent inventory checks in the Minneapolis and Chicago offices of CCC, they are now convinced that the total loan default on beans at all storage points will not be greater than 30 million bushels. On the basis of redemptions, default won't be more than 10 million bushels. It seems improbable that CCC will own more than a shirt-tail full of old crop beans at the close of the crop year.

It is suspected by some observers that heavy processor procurement of CCC loan default beans indicates a fear that the bean crop harvest may be late and that CCC beans look like a good property at this time.

This belief finds support in reports that the Foreign Agricultural Service of the USDA has earmarked part of a billion dollar PL 480 authorization for export procurement of edible oils from the U.S. this coming oil crop year. The conference committee of Congress has reached agreement on extension of legislation, and the bill was reported likely to pass Congress before the close of business this week.

FAS officials reportedly believe their ideas on allocation of funds under PL 480 plus free market procurement will develop an edible oil market this year as high as 1.5 billion pounds. This is despite the fact that some procurement authorizations for the old fiscal year have not yet been lifted.

Another landmark for the coming year will be a more severe FAS policy on procurement authorizations for all commodities. This new policy will be designed to make firm the procurement and lifting of all commodities which are agreed upon in any procurement program under PL 480. Foreign nations will not be permitted to carelessly accept PL 480 programs and then only take up the most wanted commodities and ignore the others on the FAS list.

Such a condition would prevent the occurrence of the existing situation on edible oils for Italy where that nation asked for a sizable edible oil procurement authorization and then failed to act, requiring FAS to extend the procurement period over the fiscal year deadline. But such extension will require Italian buyers to make purchases from oil crop oil prior to the new crop year starting Oct. 1.

A most disconcerting factor in the entire feed grain situation is the drastically low level forecast in some circles on the cotton crop of 8 million bales. It is unlikely, however, and some think it is a ridiculous estimate. But that it is mentioned in cotton circles is an index of the utter insecurity of estimates this year. The insecurity comes from extremely heavy moisture in the Cotton Belt.

Reports and discussions with experts on production reveal this broad uncertainty. But the swings in estimates are now being confirmed as the leading private crop reporter last week forecast a more than 60 million bushel drop in the winter wheat crop. The report confirms private trade reports reaching Feedstuffs last week. Those reports forecast a 70 million bushel cut in the winter wheat crop from the June report.

USDA officials say the head of the American Farm Bureau Federation, Charles Shuman, told USDA this past week that the big corn crop states of Illinois, Iowa, Indiana and Minnesota are sure to produce a substantially smaller crop than last year. Mr. Shuman reportedly said that reductions in those major corn states will more than offset obvious gains now seen in the East where New York, Pennsylvania and eastern Ohio indicate best yields on record on the basis of condition as of July 4. What is expected to be a bumper crop in those states is now hip-high corn.

Unless the summer is unduly dry and the corn is hit by extreme and continuous heat through August, even a cautious observer can predict a corn crop in excess of 3 billion bushels, even after taking into due consideration washed out corn land.

One may sense the uncertainty when USDA officials say that another low loan level for corn this year cannot be nailed down to any crop production level. A low loan on corn might be imposed if the corn crop indicated not more than 2.8 billion bushels.

It may be unwise to make a judgment on the basis of the July crop report. The Aug. 8 cotton crop report could reverse all other decisions if by some wild chance the cotton crop estimate might indicate a cotton crop dropping down below 10 million bales or even indicating the seemingly impossible low of 8 million.

This crop year is a horse race where none of the entries have any official record of past performances.

Essentially, all indications are most bearish price-wise. If there is a normal climatic year from here on in to harvest, most bountiful outturns of feed grains can be expected.

But USDA with its political ingredient in the commodity market broth is standing by ready to support non-complying farmers in the Corn Belt. Everything indicates that USDA won't permit a serious price break.

But if all the most optimistic aspects of production are attained, there are many who doubt that even the best efforts of USDA to check, prevent or halt a farm price break will be of little avail, either later this year after harvest or by late March, 1958.

NAMED BY FLOOD GROUP

ST. LOUIS — Morton Meyer, Thompson-Hayward Chemical Co., was elected president, and H. L. Colwell, Ralston Purina Co., was named third vice president of the St. Louis Flood Control Assn.

Roger F. Morrison

EmRal Kempf

PROMOTIONS—Promotion of two supervisory personnel in the McCabe Co.'s grain elevator department has been announced by Ben C. McCabe, president. Roger F. Morrison of Alexandria, Minn., has been named general superintendent of the firm's southern division, with headquarters in Minneapolis. EmRal Kempf of Devils Lake, N.D., has succeeded Mr. Morrison as field superintendent in the southern division, which comprises southern Minnesota and part of South Dakota.

RATIOS

(Continued from page 1)

month earlier and 8 lb. a year earlier.

On June 15 one pound of whole milk would buy 1.25 lb. of concentrate compared with 1.28 lb. a month earlier and 1.26 a year earlier.

Price reductions were recorded during the month ended June 15 for nearly all feed items bought by farmers. Salt, the only exception, was unchanged from mid-May, USDA said. This general price decline lowered the feed index to 202, about 2% below mid-May and 3% below a year earlier. Hay prices dropped sharply and oat prices declined substantially. Wheat by-products, mixed dairy feed and poultry feed all were lower.

Mid-June average prices for hogs, beef cattle, calves, and sheep were all higher than for the previous month.

The average feed prices paid by farmers in mid-June, according to USDA figures, were as follows (in cwt. with figures for the previous month and a year earlier in that order, in parentheses): Laying mash $4.42 ($4.46, $4.57); broiler growing mash, $4.87 ($4.91, $5.06); and dairy feed under 29% protein $3.73 ($3.80, $3.73).

Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED—										
Farm Chickens:										
June, 1957	3.8	3.9	4.7	4.1	3.1	4.6	4.2	3.8	4.0	3.4
May, 1957	3.9	3.9	4.6	4.1	3.2	4.4	3.9	3.7	3.9	3.3
June, 1956	5.0	5.0	5.7	5.3	4.7	5.0	4.9	4.5	5.0	4.3
Average (1946-55)	6.3									
Average (June, 1946-55)	6.2									
Broilers:										
June, 1957	4.3	4.4	4.6	4.7	4.4	4.2	4.0	4.2	4.3	4.3
May, 1957	4.0	4.0	4.4	4.3	4.1	3.9	3.7	3.9	4.1	4.1
June, 1956	4.0	4.2	4.5	4.1	4.3	3.7	3.7	4.1	4.7	4.3
TURKEY-FEED:										
June, 1957	6.7	8.9	9.1	7.3	7.4	6.0	7.6	6.3	6.1	6.3
May, 1957	..	7.1	8.6	7.2	7.6	6.6	7.5	6.1	6.1	5.4
June, 1956	8.0	8.3	9.5	8.4	8.8	7.2	8.0	7.5	7.8	7.0
Average (1946-55)	8.9									
Average (June, 1946-55)	8.3									
EGG-FEED:										
June, 1957	8.3	9.6	9.3	8.0	7.7	9.3	8.7	9.0	8.5	7.6
May, 1957	8.2	9.3	9.1	8.0	7.4	9.8	8.5	7.9	8.0	7.6
June, 1956	10.0	10.9	11.2	9.8	9.8	10.4	10.2	9.3	9.9	8.7
Average (1946-55)	11.2									
Average (June, 1946-55)	10.0									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED:							
June, 1957	1.25	1.17	1.25	1.36	1.53	1.35	1.28
May, 1957	1.28	1.16	1.23	1.33	1.46	1.32	1.27
June, 1956	1.26	1.11	1.23	1.33	1.49	1.44	1.24
Average (1946-55)	1.26						
Average (June, 1946-55)	1.12						
BUTTERFAT-FEED:							
June, 1957	22.9	...	19.4	25.4	...	15.6	18.3
May, 1957	22.4	...	19.0	24.8	...	15.5	18.1
June, 1956	21.6	...	18.8	23.7	...	15.6	18.5
Average (1946-55)	22.3						
Average (June, 1946-55)	21.1						

HOG-CORN:	U.S.	North Cent.
June, 1957	15.1	15.5
May, 1957	14.0	14.5
June, 1956	11.1	11.1
Average (1946-55)	13.4	13.7
Average (June, 1946-55)	12.8	13.1

NOTE: Ratios computed at mid-month by U.S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder.

KEY TO GEOGRAPHICAL DIVISIONS

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combinations of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

South Central: Combination of the two above.

Pioneer Buys Fulton Plant at Kansas City

KANSAS CITY — Irvin E. Linscomb, chairman of the board, and Herb Greenberg, president of the Pioneer Bag Company of Kansas City, Inc., have announced the purchase by Pioneer of the bag plant of the Fulton Bag & Cotton Mills located in Kansas City.

In the transaction, Pioneer acquired from Fulton all of the equipment, sales records and printing plates that have been used in the plant. Most of the personnel will be retained by Pioneer. Miss Helen Reynolds will continue as customer relations expediter.

"Fulton customers will continue to receive the same fine service they have been getting," Mr. Greenberg said.

The plant will be operated as part of the Pioneer organization, enabling Pioneer to more completely serve its customers. At present, Pioneer supplies multiwall paper bags of all kinds from its Allied Paper Bag Corp., processed used bags from its used bag division, and open-mesh goods for produce bags from its Pioneer Mesh Weaving Mills. The acquisition of the Fulton plant will permit Pioneer to produce textile bags of all types. Present plans call for expansion of the firm's production of cotton family flour bags, Mr. Greenberg said.

Officers of the Pioneer Bag Company of Kansas City, Inc., include in addition to Mr. Linscomb and Mr. Greenberg, William J. Gore, vice president, and L. E. Brown, vice president of Allied Paper Bag Corp.

Lawrence J. Munzenmaier

DU PONT POST — Lawrence J. Munzenmaier, a specialist in turfgrass management, has been assigned to the Pacific Northwest including California as sales representative for Du Pont's nitrogen products. He will headquarter in Sacramento, Cal., and will handle sales of feed and fertilizer compounds. Mr. Munzenmaier holds a degree in agronomy and an M.A. degree in turfgrass management from Purdue University. He joined Du Pont in 1956.

Nebraska Dehydrators Name New Officials

LEXINGTON, NEB.—New officers and directors of the Nebraska Dehydrators Assn. were elected here during the recent annual outing of the group.

Liegh Raetz, National Alfalfa Dehydrating & Milling Co., Lexington, was elected president, and Bill Smith, Al-Fa Meal Co., Columbus, was named vice president.

New directors are Howard Rhea, Dehy Alfalfa Mills, Inc., Fremont; Cliff Bossung, Dawson County Feed Products Co., Lexington and Paul Magette, Kearney Alfalfa Mills, Kearney.

Stilbestrol's Effect May Include Control Of Harmful Organisms

EAST LANSING, MICH.—Part of stilbestrol's growth-stimulating effect may stem from its growth-inhibiting effect on harmful microorganisms, research at the Michigan State University Experiment Station shows.

"It is evident that stilbestrol is exercising a bacteriostatic effect upon a wide spectrum of bacteria," say the two researchers, C. L. San Clemente and R. D. MacKenzie. They tested the comparative bacteriostatic effects of stilbestrol on 15 different organisms, including many of the more common ones. Analysis showed that, in general, the Gram-positive ones are the most susceptible to growth-inhibition. The selected micro-organisms were treated with varying concentrations of stilbestrol, and the effect upon growth was determined after incubating six hours at 37° C. All the Gram-positive bacteria tested were definitely susceptible and varied from each other only slightly. The Gram-negative organisms varied more widely in susceptibility.

The results of this experiment suggest, say the researchers, that in addition to the usual known hormonal aspects caused by stilbestrol, this action may be tied to its bacteriological effect upon intestinal organisms. They felt oral intake of stilbestrol for this action against organisms may be better than implantation, especially in herds having low-grade infections. Their work supports earlier research along the same lines.

Vina, Cal., Firm to Manufacture Feed

VINA, CAL.—The George Beck Co. has been formed in Vina, Cal., to manufacture pelleted feed for dairy cattle and sheep, for distribution in the Red Bluff area of northern California.

George Beck, a grower of corn and milo, has entered into partnership with Russell Christianson, and expects to have his new 50-ton a day capacity plant in operation about Sept. 1.

The one floor, semi-automatic plant will include a California Pellet mill, a 2-ton horizontal mixer by Hayes & Stolz, a Jacobson grinder, and a Howe batch scale.

Borden Award Goes to Cornell Nutritionist

ITHACA, N. Y.—One of the outstanding young men in animal nutrition in the country, Dr. J. Thomas Reid of the animal husbandry department at Cornell University, has been awarded the 1957 Borden award of $1,000 and a gold medal.

Research in animal nutrition gained him recognition for the award, presented during the recent American Dairy Science Assn. annual meeting at Oklahoma A.&M. College at Stillwater. He has been author or co-author of 65 research papers during the past 10 years.

Dr. Reid received the American Feed Manufacturers Assn. award in dairy nutrition in 1950, and in 1955 he won a Guggenheim Fellowship to study at the National Institute for Research in Dairying at Shinfield, England.

A native of Cumberland, Md., Dr. Reid worked his way through the University of Maryland. He was employed in the dairy barns there and had summer jobs on dairy and livestock farms. He is currently associate chairman of the national joint committee on grassland farming, and this year he was appointed as consultant to the State Experiment Station Division of the U.S. Department of Agriculture.

KING-SIZE—Iwana Musteen of Rogers, Ark., who was recently named "Miss Arkansas Chic," served drumsticks to thousands of Jaycees who attended the recent national convention of the Junior Chamber of Commerce in Milwaukee. Miss Musteen is shown here holding a king-size drumstick. She was the official hostess at the Arkansas "drumstick party" which has become an annual event of the Jaycee convention. More than 10,000 drumsticks were served at the convention. Sponsoring the party were the poultry processors of Arkansas, the Arkansas Feed Manufacturers Assn. and the Arkansas Poultry Improvement Assn.

Knox Hutchinson Dies

MURFREESBORO, TENN.—Knox T. Hutchinson, 62, assistant U.S. secretary of agriculture from 1949 to 1953, died at his home here June 30 from cancer. He had also been a state senator, a farmer, agriculture instructor, president of the Tennessee REA and director of agricultural education at Murfreesboro State Teachers College.

WINS SAFETY AWARD

OGDEN, UTAH—The Albers Milling Co. of Ogden, has been given an achievement award for its safety record during 1956 in the National Safety Council's grain handling and processing division. Art Rausch, superintendent of the Ogden plant, a division of the Carnation Co., said the certificate of award has been presented to the plant employes. Last year's record has increased to 72,000 man-hours the number of man-hours worked in the Ogden plant without a lost-time accident.

MARKETS

(Continued from page 2)

producers for these eggs were around 5¢ lower than a year ago while small egg quotes were only down 2 to 3¢ from the same 1956 period.

Going egg prices to farmers, f.o.b. Portland, last week were: AA large 36-38½¢ doz. with A large at 32-34½¢ and A grade medium at 28-29½¢ with smalls unchanged at 21-23½¢.

Formula feed mixers indicated tur-

key feed sales may be close to the season's high with producers now marketing early maturing birds.

Area turkey processing plants have announced a price of 25½¢ lb. for A grade young hen turkeys, some 9½¢ lb. lower than a year ago and the lowest price of record for eviscerated turkeys.

The volume of dairy feed sales was about unchanged with last week as producers made the most of better than average Pacific Northwest pasture conditions. Hay listings held unchanged with an easier undertone as the result of heavier alfalfa offerings.

Ohio Valley

Formula feed sales eased off considerably this week from the low volume of recent weeks, as farmers moved into their busy early summer harvesting activities. These are being stymied to a considerable extent by recurring heavy rains and windstorms, which make it likely that the area's wheat harvest will be well below that of recent years.

Also, the unusually wet season appeared likely to delay both crop harvesting and other mid-summer farm activities, adding further to the factor of unsatisfactory market prices for about all farm animals, except hogs. Hog prices held up surprisingly well, and this resulted in the continuation of good hog feed sales, along with good turkey feed sales. Otherwise, the formula feed market was at about the lowest volume in many years, with numerous retail outlets reported overstocked.

Because of the holiday, most area mills were operated this week on four-day schedules, and some plants remained closed the last half of the week to provide employes with an extended holiday. There were only minor changes in formula feed prices.

Central States

The feed business showed some slight improvement in the central states during the week ending July 3, but spokesmen said it was nothing to get excited about. Any step-up was due almost solely to the low state of inventories, they said, and the outlook for the next several weeks was for fairly unsatisfactory sales.

There are too many factors working against feed business for any boomlets to occur, it is believed. Farm prices still are relatively low, pastures are exceptionally good, and formula feed prices are fairly firm. There is little to encourage good feeding practices, observers point out, and feeders are getting by with as little outlay of cash as possible.

Most firms shut down for the July 4 holiday, but reopened July 5.

California

Formula feed mixers were busier than usual during the past week because of the July 4 holiday. In addition turkey feeds were beginning to move in better volume as the birds are now getting pretty large and feed consumption is increasing.

Generally speaking, the poultryman was still having a difficult time and mills were watching credits very closely. There was a little ray of hope since a week ago with egg prices up about 2¢ doz. If this holds it will probably be reflected in the stores. There was a good local demand especially for the large sizes. However, mediums and smalls were still in good supply.

The poultry picture showed no change from last week and there seemed to be a very good supply of fryers on hand.

Grain and feed ingredient prices were unchanged to somewhat lower from a week ago. There was no sustained buying interest apparent in any of these commodities as without exception buyers were content to purchase hand-to-mouth. The weather was warm but not too hot for poultry. Harvesting was progressing rapidly throughout California. Test weight on grains, especially oats, was a little disappointing in view of the fact that May was one of the wettest months on record.

Southeast

There was very little change in the feed demand during the past week. Poultry feeds continued to move in good volume, with baby chick placements during the last reporting period 13% more than in the corresponding period last year in the North Georgia producing area. Broiler prices remained about steady, with the going price at 20¢ at the farm.

Feed mill running time was unchanged for all practical purposes, and feed prices were about steady.

As oil mills ceased operations for the year, cottonseed hulls have become rather scarce and demand for a roughage type feed has switched to ground corn cobs and shucks. However, the supply of this material was limited because the price of ear corn is such that it does not pay profitably to operate a shelling operation. As a result, most ear corn moving from the farms was being crushed for ground snap corn purposes. Recent advances in the price of citrus pulp helped demand for snap corn.

Supplies of southeastern soybean meal tightened to some extent during the past week, and outside of Memphis proper, it was hard to locate Mississippi Valley soybean meal. This has thrown additional demand on the Memphis market as well as the Illinois market, and nearby supplies were not as available as they once were.

Based on most reports, there was still very little interest displayed in forward movements of any kind at present prices. All buying seemed to be on a hand-to-mouth basis. Recent bad weather in some sections of the Southeast interrupted fishing operations and there was very little fish meal available for immediate shipment.

Mountain States

Turkey feeds continued to be in good demand but most feed sales remained at a near snail's pace.

There did seem to be a general air of optimism about the feed situation, based on the expectations of feeding requirements this fall. It appears that there will be a considerable number of cattle on feed this fall and winter.

Very fine pasture and hay were taking a heavy bite out of the formula feed business, but feed dealers were happy that they were keeping livestock in the area.

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Farmers Union Co-operative Association
Blue Hill, Nebraska

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